UNIVERSIDAD COMPLUTENSE DE MADRID

FACULTAD DE FILOLOGÍA

DEPARTAMENTO DE FILOLOGÍA INGLESA

TESIS DOCTORAL

Under the cloud of doom:
a congitive-critical analysis of the US media representation of the atomic age

A la sombra de la funesta nube:
una aproximación al análisis crítico-cognitivo de la representación de la era atómica por los medios de comunicación estadounidenses

MEMORIA PARA OPTAR AL GRADO DE DOCTORA

PRESENTADA POR

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Madrid, 2014

UNIVERSIDAD COMPLUTENSE DE MADRID
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Tesis Doctoral Presentada por:
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Para la obtención del grado de Doctor

AGRADECIMIENTOS

Una tesis es, en realidad, una carrera de fondo en la que en corredor se enfrenta a largas jornadas de viaje sin más compañía que la del tirano equipaje de los libros. Los vítores de los espectadores—especialmente los de mi madre, padre, hermanas y marido, sin olvidar sin duda alguna los de los amigos—son los que me han empujado, casi de un modo literal a llegar hasta el final.

Ni que decir tiene que la maratón doctoral es una empresa solitaria y oscura que te lleva por los vericuetos intransitables del doloroso camino del saber. Pero yo tuve la suerte, de encontrarme con otro corredor también entregado a las fatigas de las largas jornadas a la sombra de Widener*. Sin este incansable compañero de viaje el haber llegado hasta aquí no habría tenido sentido.

Cabe destacar además que en esta intensa carrera de fondo, mis maravillosas entrenadoras, Dra. Juana I. Marín Arrese y Dra. Begoña Núñez Perucha, han sido las que me han preparado para las vicisitudes de este largo periplo. Como buenas entrenadoras, han sido un esencial apoyo, comprensivas a veces, duras las más, sin su preparación técnica y emocional, la carrera habría fallado y yo me habría quedado en el camino.

*A Widener también le voy agradecer que me proveyera con el mejor equipamiento, zapatillas para volar en forma de biblioteca universal.

INTRODUCTION

'Defining atom bombs'

World War II ended dramatically in 1945 when the American army dropped two atomic bombs on Hiroshima and Nagasaki, eliciting the surrender of the Japanese and bringing a conclusion to long-standing worldwide disillusionment with war. That historic milestone constituted the unequivocal introduction of nuclear energy into society. However, the atmosphere in which the power of the new energy emerged was a variable landscape of conflicting opinion. Certainly, the bombings of Japan constituted a source of open debate and worldwide dispute. The momentous event unleashed the *nuclear age* before the eyes of an entire planet awestruck by the nature and implications of nuclear energy.[1] Just a month after the bombing, William Burchett published in The London Daily Express an article titled The Atomic Plague in which the journalist raises awareness of the deadly effects of atomic weapons:

> In Hiroshima, 30 days after the 1st atomic bomb destroyed the city and shook the world, people are still dying, mysteriously and horribly- people who were uninjured in the cataclysm from an unknown something, which I can only describe as the atomic plague. Hiroshima does not look like a bombed city. It looks as if a monster steamroller has passed over it and squashed it out of existence. I write these facts as dispassionately as I can in the hope that they will act as a warning to the world.

A year later, in 1946, The New Yorker published a long article by John Hersey called Hiroshima, which was another controversial account of survival and destruction in the aftermath of the Hiroshima bombing:

[1] While the bombings were generally accepted with pride the use of atomic weapons to finalized WWII, some controversial aspect of the use of it quickly emerged questioning the morality of the employment of such a destructive devise upon civilian targets.

> Twenty-five to thirty days after the explosion, blood disorders appeared: gums bled, the white-blood-cell count dropped sharply, and petechial appeared on the skin and mucous membranes. The drop in the number of white blood corpuscles reduced the patient's capacity to resist infection; so open wounds were unusually slow in healing and many of the sick developed sore throats and mouths. The two key symptoms, on which the doctors came to base their prognosis, were fever and the lowered white-corpuscle count.

Fundamental to public acceptance of the bombings was an articulate, convincing public accounting of these implications. Responsibility for such elucidations fell to the American head of state. A relative newcomer to the atomic universe, President Truman's statement constituted the rhetorical birth of the new concept:[2]

> It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its power has been loosed against those who brought war to the Far East […] But the greatest marvel is not the size of the enterprise, its secrecy, nor its cost, but the achievement of scientific brains in putting together infinitely complex pieces of knowledge held by many men in different fields of science into a workable plan […] The fact that we can release atomic energy ushers in a new era in man's understanding of nature's forces. Atomic energy may in the future supplement the power that now comes from coal, oil, and falling water, but at present it cannot be produced on a basis to compete with them commercially. Before that comes there must be a long period of intensive research. (Statement by the President of the United States, Aug 6th 1945)

This excerpt contains the basic rhetorical elements necessary in order to lessen the negative impact of the event and open up the possibility of a constructive approach to atomic energy. Due to the disquieting aftermath of destruction in Japan, raising awareness as to the benefits of the bombing was of critical importance. Truman's statement was a dialectical tightrope act in which would help to channel public opinion into an understanding of this new *'basic power of the universe: the atom bomb'* which favored the institutional interpretation of the event. Certainly, conceptual knowledge of

[2] The whole text can be found at http://www.cddc.vt.edu/host/atomic/hiroshim/truman1.html (last time accessed 28/4/2014)

the bomb would be formed based on the truth—yet the notion of truth relied upon on a set of beliefs enacted in the discourses of powerful political or media institutions (Van Dijk, 2000). Indeed, Truman's statement broached a new category in which lexical selection, as an essential part of the inherent essence of the atomic bomb and its ideology, nurtured the emergent conceptual category for atomic energy. During the months that followed, newspapers endlessly echoed that original *laurencian* style.[3] Headlines evoking the might of the atomic bomb invaded every single American publication, consolidating a positive representation of the myth of the atomic bomb and promoting a very particular type of nuclear ideology. When addressing questions of nuclear discourse, it should be expected that there is a particular 'ideology of nuclear power' that posits a singular perspective, and that has as its ultimate goal the establishment of a distinct type of knowledge regarding atomic energy.

Something as ineffable, shrouded in mystery and wrought with political intrigue as atomic energy could not be plainly defined. Rather, a set of well-established and powerful sources began weaving the fabric of nuclear ideology and, as a result, the course of atomic narratives follows the chronological order of the events of the atomic age.

[3] William L. Laurence was, without any doubt the most relevant figure within the birth of atomic discourse. Commissioned by the Manhattan project as the as the official journalist of the atomic bomb, this writer published during decades in *The New York Times* and its sister *Los Angeles times*. Laurence was present in both Trinity Test in July 1945 and Nagasaki bombing in Aug 1945. His characteristic style profusely invaded by the language of faith and his hyperbolic rhetoric is essential to establish a primary set of truth beliefs regarding atomic weapons. It was Laurence who was alleged to have written Truman statement (Boyer, 1986). Laurence went on publishing multitude of articles along with several books in which the topic is the atomic energy. Among these publications the most outstanding is *Dawn Over Zero: the Story of the Atomic Bomb*, which was published in 1946 and gathers information about the early years of the *atomic age* from the perspective of this privilege witness and his particular style.

What follows is a mere outline of the main landmarks of this period (Weart, 2010: 307-309):[4]

NUCLEAR HISTORY TIMELINE (1945-1991)

1945	Trinity atomic bomb test; bombing of Hiroshima and Nagasaki. World War II ends
1946	Operation Crossroad
1949	Soviet Union tests atomic bomb
1952	United States tests hydrogen fusion devise
1953	USSR tests hydrogen fusion devise. Eisenhower launches *Atoms for Peace*
1954	United States tests hydrogen bomb; *Lucky Dragon* radiation; fallout controversy begins.
1955	Geneva conference on Peaceful atom; Soviet Union tests hydrogen bomb
1959	US deploys its first Polaris nuclear missile submarine and its first IBM
1962	Kennedy asks Americans to built fallout shelters. Cuban missiles crisis
1963	Limited Test Ban Treaty bans atmospheric tests (UK, US, USSR)
1968	Non-Proliferation Treaty established inspection of peaceful reactors
1969	Strategic Arms Limitation Treaty (SALT) talks inaugurated
1970	US deploy Multiple Independent-targetable Reentry Vehicle (MIRV) multiwarheads missiles.
1972	US, USSR sign Anti-Ballistic Missile Treaty and SALT I
1981	Reagan administration begins arms build up
1983	Reagan announces Strategic Defence Initiative to destroy incoming missiles (*Star Wars*)
1986	Reykjavik meeting of US president and Soviet premier begins to wind down Cold War
1987	US, USSR sign Intermediate-Range Nuclear Forces Treaty restricting midrange missiles
1989	Berlin wall falls, end of Cold War.
1991	US, USSR sign Strategic Arms Reduction Treaty (START)

[4] For a detailed account of the timeline for nuclear history, there are numerous sites that provide elaborate descriptions of the landmarks of the atomic age, these are some of them:
http://www.atomicarchive.com/Timeline/Timeline.shtml (last time accessed 28/4/2014)
http://www.nuclearfiles.org/menu/timeline/html_index.htm (last time accessed 28/4/2014)
http://www.colorado.edu/journalism/cej/exhibit/nuketime.html (last time accessed 28/4/2014)

For more than sixty years, from 1945 when the first atom bombs were deployed until 1991 when the Cold War reached its official conclusion, the public was exposed to a barrage of deliberate nuclear discourse decisive in its interpretation of the *nuclear age*. Since then, the ideological orientation of nuclear affairs has always been in a state of constant flux guided by the preoccupations of powerful institutions. The emergence of this new era in the history of mankind brought with it a new mindset regarding the potential threats and inexhaustible might of atomic energy. With this new atomic category a whole new taxonomy of nuclear terms arose. Among the most noteworthy trademarks within the mental category that many have called *Nukespeak*,[5] we find *atomic race*, *radiation*, *atoms for peace*, *atomic holocaust*, *nuclear winter*, *Star Wars*, *SDI*, *MIRV*, *SALT*.

It is evident that language played an essential role in the configuration of the identity of the atomic age; indeed, the apparatus of ideological discourse is worth examining in order to detect the mechanisms involved in the production of *atomic* truth beliefs. While political discourses were substantial players in the emergence of *nukespeak*, as prime mover of public opinion, the media bears responsibility for the production of a very particular ideological perspective consonant with the interests of the government.[6] During the years of the Cold War, when atomic stakes were at their highest,

[5] Based on Orwell's *1984* concept of newspeak, *Nukespeak* is considered 'is the use of metaphor, euphemism, technical jargon and acronyms to portray nuclear concepts in a "neutral" or positive way' (Schiappa, 2010: 253). Authors such as Chilton et al (1988), Crispin (1983) and Hilgartner et al (1983) have studied the rhetoric of nuclear discourse employing this label to identify terms and discursive strategies associated to the identification and taxonomy of nuclear affairs.

[6] For every atomic milestone, there is at least one presidential discourse that will mark the rhythm of the information released by the media. Thus, in 1945 Truman's statement was the starting signal of the atomic age. In 1946, Winston Churchill in his well-acclaimed *The Sinews of Peace* established the political tendency for more than five decades: the Cold War. Another landmark within atomic discourse was in 1953 when Eisenhower pronounced his *Atoms for Peace* discourse, a desperate claim for a less belligerent approach to atomic energy. Kennedy, in 1963, in his Commencement speech at American University raised

newspapers were by far the most prominent source of information concerning nuclear affairs. Almost systematically, American journalists embraced and disseminated a set of carefully fashioned, ideologically inflected beliefs that set the groundwork for the conceptual model of atomic energy.

The present work attempts to closely analyse the type of language employed by some of the most prominent American newspapers to define nuclear affairs during the years of the Cold War. The motivations for this study are both personal and academic. As a child of the Cold War, I developed a particular interest in and fear of a nuclear winter, while my scholarly formation has imbued me with a fascination for the power of words to mould our consciousness and shape our awareness of critical world issues. In the present dissertation I immerse myself in the search and analysis of news articles dealing with atomic questions to investigate the development of a conceptual image of atomic energy based upon the linguistic appetites of newsmakers. Traversing over four decades, delves into the conceptual organization of the category of atomic energy from the level of global topics to the particularity of lexical item selection. As will be shown by the present analysis, the way public opinion engaged with the concept of the *atomic* was strongly marked by the type of language the media utilized to define it.

The methodology employed works from the intersection of Critical Discourse Analysis, Cognitive Linguistics and Evolutionary Psychology in order to ensure a comprehensive approach to the study of atomic energy concepts within the ideological framework of the Cold War. Another goal of this study is to detect patterns of atomic

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awareness about the danger of nuclear energy and the needs for nuclear agreement, mollifying the impassioned moods of previous periods. It was Reagan the one awaking former fears in atomic vulnerability with his infamous *SDI* speech of 1983, a final chapter in the story of atomic conflict that produced the most fantastic images of all the nuclear age.

discourse permeating different newspapers and periods and to determine the extent to which language selection conclusively influenced the interpretation of atomic affairs.

ORGANIZATION OF THE THESIS

The present dissertation is divided into two main sections, a bibliography, and an appendix. After a brief introduction, Section I corresponds to the hypotheses, objectives and methodology of the research, which includes the theoretical background employed as ground for the corpus analysis. This section presents an overview of the theories of conceptualization, metaphor theory, media discourse production and interpretation. Section II covers the analysis and is sub-divided into five subsections corresponding to the different historical stages in the Nuclear Age. In the first stage that goes from 1945-1949 the study presents the first conceptualizations of the atomic bomb and American atomic might. The second period that covers 1949-1953 introduces the atomic threat and the Russian atomic bomb. In the third phase, 1953-1962, nuclear anxiety is established and radiation presented prominently as the terrible by-product of (Russian) atomic explosions. After this hectic time, there is a period of rest during which tensions are eased, 1963-1979, which is followed by the final stage in the history of the Atomic Age, 1980-1991. At the end of section there is a final chapter that presents a summary of the main findings, the evaluation of the results and plans for future research in the area of nuclear discourse during the Cold War. After that, following the bibliography, I have included an appendix; a table presenting the articles and metaphors used, with their corresponding distributions and data organization, which serves to help the reader to understand the execution of this study.

I. HYPOTHESES, OBJECTIVES, AND METHODOLOGY

1. RESEARCH HYPOTHESES AND OBJECTIVES

The inaugural year of the Atomic Age was 1945. The notion of atomic energy, at that early stage, was associated with a type of belligerent scenario of rivalry between the US and Russia in an attempt to control and dominate the new 'cosmic' power. During the years of the conflict, nuclear anxiety was a byproduct of the rhetoric of fear and despair promoted by institutions to explain nuclear affairs. Media discourse was a powerful tool in this context. Because nuclear power can hardly be touched or experienced, it cannot exist extraneous to the *texts*, and must thus be imagined and presented through them.[1] Such meaning is consequently bound culturally and ideologically to certain stereotypes and cultural frames that condition our comprehension of nuclear energy.

The topic of this dissertation is the study of nuclear discourse as presented in printed news media. Its purpose is to draw a diachronic map of the category of 'nuclear affairs' portrayed by different media covering the entire period of the Cold War, which goes from 1945—when the first atomic bomb was used against civilian population—until 1991—when Russia and the US reached definitive agreements that brought a definitive end to the conflict. The study carries out a retrospective analysis of news articles dealing with the concept of nuclear energy, nuclear conflict, or nuclear weapons in order to determine how these representations contributed to the consolidation of a very particular type of nuclear ideology within American public opinion.

[1] Derrida talks about the condition of atomic discourse as just in texts in his essay '*No Apocalypse, not Now*' published in 1984. At that time, as we will see later on, nuclear criticism was in the center of public opinion.

Further, this dissertation intends to demonstrate how this nuclear ideology consists of a cluster of very different types of linguistic elements that created a very precise and unique understanding of the nuclear event within the parameters of the interests of powerful institutions. The approach is based on a linguistic analysis of a large corpus of media texts.

Nuclear affairs were fundamental to the American public for more than half a century. The type of rhetoric to which Americans were exposed insufflated them with a constant sense of hopelessness and anxiety. What a priori could have been regarded as an innocuous narrative was bound to be the heart of one most of the salient insecurities in the American unconscious: nuclear anxiety.[2] Newspapers, for most of the spam of time that covers the Cold War, were the main source of information regarding this and many other political issues. The way people understood the *atomic race*, *radiation*, *the Red menace*, or *Star Wars* is mainly owed to journalists' portrayal of nuclear concerns. While one cannot claim that nuclear discourse was entirely discriminatory, there is enough evidence to contemplate its effect as harmful for a population that relied on it to understand the already complex meaning of the nuclear domain.

With the support of powerful institutions, mass media instigated a type of nuclear ideology favorable to the interests of the American government. This dissertation seeks to unveil the way media interfered in the conceptualization of nuclear energy in text-receivers. To begin with, the power of persuasion in the media is central to the present study. My first hypothesis is thus as follows:

[2] Milton Schwebel (1990) presents a study of the effect of nuclear discourse in the construction of reality during the Nuclear Age, providing enough evidence as to claim that the way nuclear affairs were portrayed by institutionalized discourse enormously influenced the way public opinion interpreted them in a rather negative way.

(i) Media discourse, employing carefully chosen strategies to describe atomic affairs at both the global and local level, constructed the foundations of a particular type of American '*nuclear ideology*'. This ideology is likely to vary depending on the socio-political zeitgeist of each historical period. The hypothesis presupposes that media discourse adapts to the political interests of the moment altering the type of discursive strategies, both at global and local level, employed to talk and define atomic affairs.

This work brings into question conceptualization as a complex and partial phenomenon. In order to create a new ideological perspective, text-producers employ different types of biased linguistic procedures.

The media contributed to the design of the nuclear category on many different levels. First, throughout the Atomic Age, newspapers controlled whether information about nuclear issues would be foregrounded or marginalized. Second, through the use of a very rich and elaborate language, journalists guided readers toward an ideal model of '*nuclearity.'* Third, the selection of topics brought into the category new elements that were intrinsically linked to the definition of nuclear questions.

This dissertation opts to utilize conceptual metaphor and metaphor-related lexical analysis. The use of metaphor analysis as the main analytical tool is justifiable for several reasons. Metaphorical thinking is the most salient feature of discourse production, and consequently one of the key elements to shed light upon questions of persuasion and meaning formation. While there are other construal operations that give evidence of a type of discursive orientation, when dealing with large corpora in order to reach general conclusions, a thorough study of all construal operations involved in meaning formations

would be impractical. Metaphor analysis is effective in drawing conclusions about language manipulation in media texts. For that reason, my second hypothesis can be formulated as such:

(ii) The style and the ideological effects of news articles in the configuration of the nuclear model will be reflected in the discursive strategies whereby the nuclear model is conceptualized. The analysis of conceptual metaphors and their local lexical realizations might prove to be sufficient material to draw conclusions about the ideological conceptual structure of the *Atomic Age*.

The way this dissertation applies metaphor theory, however, is relatively orthodox: the analysis is grounded in the principle of looking at different metaphorical representations of an event. However, in this regard, while the approach aligns with that proposed by Steen et al. (2010) in their method for linguistic metaphor identification, this dissertation does not present a taxonomy of metaphor production. Rather, the objective is to show how text-producers utilized different conceptual metaphorical mappings and how these are represented at the local level of meaning through lexical units. These strategies can be based on conceptual metaphors of different types: primary or complex metaphors, conventionalized or novel cases. Their local realization can occur via metaphor-related words but it might also be through other types of discursive strategies. Hypothesis (ii) relates to hypothesis (i) in the sense that by looking at the conceptual metaphors activated by newspapers, the researcher can describe the contours of a nuclear category in which different participants are metaphorically depicted as part of its conceptual conglomerate.

However, while hypotheses (i) and (ii) focus on the production of texts, this dissertation follows the work of Hart (2010, 2011), according to whom the productive stage of discourse has an effect on the interpretative stage that cannot be ignored when analyzing meaning construction. The hypotheses posited thus far concern the production stage, focusing upon media portrayal of the nuclear category and the linguistic strategies it employs. In addition, this dissertation also analyzes the interpretative level by drawing upon public opinion polls in order to determine how the media influenced text-receivers' comprehension of nuclear affairs.

The goal is to propose a general theory of text-interpretation arrived at from the qualitative analysis of the corpus based on hypotheses (i) and (ii). This approach is unique in that it covers the two stages of discourse: production and interpretation. The third and last hypothesis, then, can be formulated thusly:

(iii) Text interpretation and meaning construction is based on evolutionary principles that make text-receivers behave in a particular manner. The use of manipulative strategic discourse has a determinant effect on the reception of nuclear ideology on text-receivers. The type of metaphorical selection in which the whole atomic age is portrayed by the media has consequences, not only at the production level, but also at the interpretative stage where meaning formation can be biased by discursive strategies.

At this point, the use of Evolutionary Psychology is crucial to provide evidence of the conditioning by discourse production of receivers' behavior regarding certain issues.

This dissertation proposes a multidisciplinary approach incorporating Cognitive Linguistics as an analytical tool.[3] The objectives of this study are dual: first, objective (i) is to examine the extent to which the shaping of nuclear ideology was molded by media discourse; second, objective (ii) is to determine how conceptual metaphors are employed in the service of ideological manipulation; third, objective (iii) is to discern how the ideological organization of text incites certain behaviors in text-receivers.

[3] Authors such as Paul A. Chilton and Christopher Hart are working in this direction and I intend to follow their approach in this work.

2. METHODOLOGY

This research attempts to provide a detailed account of the printed media articles related to atomic energy during the period of the Cold War (1945-1991). In order to do so, it focuses on four of the most prominent and most geographically distributed US publications: *The New York Times, The Los Angeles Times, The Chicago Tribune,* and *The Washington Post*. The electronic publisher *'Proquest'* was used to assemble the corpus. This tool provides online access to a wide variety of newspaper archives. The selection of the texts was based upon a variety of factors.[4] One of the first basic procedures was to organize the texts chronologically (1945-1991) selecting relevant dates within the history of the Nuclear Age. A great deal of historical research took place at this level in order to establish a clear organization of the sub-periods and stages within 'the Cold War'. Using keywords such as 'atomic bomb', 'H-bomb', or 'Russian atomic bomb' I carried out an extensive set of searches on *Proquest*. Once the results where compiled, I narrowed them down upon the basis of relevance, length, and page position of the articles. Among the criteria, in fact, one of the most important features was page position: more than 85% of the articles used were from front pages.[5] Considering that the present study proposes a comprehensive analysis of the metaphors and other semantic devices used by media to generate 'nuclear ideology', in order to guarantee the statistical relevance of the corpus, a total of approximately 5000 texts were grouped in the first stage of the research. Subsequently, following the same selective strategies, but with a more restrictive criterion,

[4] See http://www.proquest.com/en-US/default.shtml to access Proquest search engine.
[5] I had in mind what Van Dijk claims: 'Whether a news report appears on the front page or on an inside page of the newspaper, high on the page or at the bottom, left or right, or whether it has a small or a banner headline, is long, short or broad, that is, printed over several columns, with or without a photograph, tables, drawings, color and so on, are all properties of the graphical representation of just one genre that may have a serious impact on the readers' interpretation of the relevance or newsworthiness of news events' (1998: 201).

these texts were reduced to a selection of 250 articles: 50 articles for each of the five different periods.

2.1. Corpus selection: the periods

Cold War scholars have agreed on the division of the Atomic Age into five distinguishable stages.[6] These five stages correspond with milestones in the history of nuclear development and rivalry between the two superpowers: the United States and Russia. Considering the relevance of the development of nuclear weapons during the Cold War, it is not surprising that many of the periods converge around nuclear landmarks such as the first atomic bombing, the first Russian A-bomb, the H-bomb or the Star Wars project. The following table shows the chronological organization of these periods:

PERIOD	
1945-1949	*Atomic Bomb, Atomic Age and the Potential Enemy*
1949-1953	*Second Atomic Age*
1953-1963	*Atoms for Peace and War*
1963-1979	*The Atomic Talks*
1980-1991	*Back To The Nuclear Threat*

What follows is a brief summary of the political and historical context in which the Atomic Age took place.

[6] Among the ones that I consulted, it is worth to mention Weart (1988, 2012) for a general overview of the images of the Atomic Age, Boyer (1985) for an account of the early Atomic Age, Gaddis (2005) for an accurate history of the Cold War, Wills (2010) for a review of national security and the power of atomic energy, and Franklin (1988) for the study of the late Cold War.

The Birth of the Atomic Age, 1945-1949

The bombing of Hiroshima and Nagasaki in August 1945 constitutes the beginning of what is now known as the Atomic Era and is widely regarded as the starting point for a new global order. During this period of time, which ranged from 1945 to 1949, the idea of atomic power flourished as a positive force. Media echoed the voice of William L. Laurence—the official chronicler of the bomb's history—who extolled the spectacular features of the new invention. Laurence was commissioned by the Manhattan Project to work as the journalist of the bomb. His importance is reflected in his nickname: '*Atomic Bill'* (Boyer, 1985). In this section, the analysis focuses on the basic and essential definitions that will embed the term into the American imaginary as a mixture of doom and wonder. This first stage is crucial because it creates a definition for a new and unique phenomenon. More interesting is the fact that William L. Laurence was the only one allowed anywhere near the project. As the official journalist of the Manhattan Project, his was the sole voice narrating the events leading up to the development and use of atomic energy. In this primary phase, symbolic meaning is essential to understanding the atomic event. Laurence, followed by a flock of adepts, engendered a mythological understanding of the atomic bomb.

Second Atomic Age 1949-1953

Russia's detonation of its first A-bomb at the end of 1949 concluded the (first) Atomic Age. If up to that date, nuclear energy had been presented as a 'golden age' panacea; Russia's nascent possession of nuclear power a terrible threat reconfigured

American understanding of nuclear affairs. During this second period, the elemental definition of atomic energy, which was based on images of pride and awe, was subsumed by a discourse of confrontation and threat. Rivalry and uncertainty would be the new patterns of the nuclear ideology, which has received the sobriquet *Second Atomic Age*.

Atoms for Peace and War 1953-1963

However, in this pessimistic scenario, there was some hope for atomic wonders. In 1953, President Eisenhower gave a speech titled *'Atoms for Peace'* in which the President emphasized the marvels of nuclear energy and brushed aside Russia and its atomic threat. During this period, however, Eisenhower could not completely eliminate the perceived threat of a nuclear holocaust. While there was a clear tendency toward a positive change in nuclear discourse, it maintained many of its ominous features. Indeed, during this terrifying period the threat of Russian atomic supremacy came to challenge the American monopoly. Now more than ever, the civilian population would live under the threat of an atomic holocaust.

The Atomic Talks: 1963-1979

The atomic anxiety of the 1950s decreased notably in the 1960s. The public ceased to be interested in or afraid of nuclear threats (Boyer, 1985; Weart, 1986). Many factors were involved, but the most important among them was the Vietnam War (1955-1975), the controversial character of which gained all of the media's attention. This stage is of interest precisely because of the alleged lack of relevance of nuclear issues. During

these years tension between the US and Russia had eased; some agreements were reached and a general atmosphere of cordiality was established between the two superpowers.

Back to the Nuclear Threat 1981-1991

It was not until the 1980s that nuclear threats and conflict return to the political and social arena. In 1983 President Reagan gave a speech about the space race, which inaugurated a new style of nuclear discourse. Reagan's rhetoric combined the fears of former voices with allusions to the many innovative technological advances of the time. This phase is one of the most complex stages in the Atomic Age, because it represents an authentic turn in the modernization of the nuclear category. However, during this time the public witnessed the end of the Cold War and by its end, tensions had eased, talks proceeded harmoniously and confrontations dissolved.

2.2. Procedure

Once the corpus was narrowed down to 50 texts for each historical phase, I selected excerpts that contained metaphorical tension of any kind that could be potentially valuable to the goals of my study. In the first stage, and following the MIPVU premises (Steen et al. 2010), I identified the use of lexical items demonstrating a metaphorical tension between a basic and contextual meaning independent from its condition as direct, indirect or implicit. In addition, I included words related to conceptual metaphors that were not metaphorical units per se, but that underlie a cross-domain interpretation. In fact, in this study, I go beyond the methodology presented in MIPVU theories, extending the analysis of lexical unit to the scope of metaphorical implications not directly expressed by means of metaphorical units. For instance, the use

of hyperbole, and quantification to denote large amounts. Also, the employment of predicative strategies that reinforce a particular type of conceptual domain, such as the adjective 'secret'. The purpose of this methodology, as opposed to MIPVU, is to link the local meaning expressed semantically with the global meaning and its conceptual structure, reuniting the macro and micro level of analysis in order to draw the conceptual map of nuclear ideology.

In fact, while my selections of metaphorical items are based on MIPVU, I also diverge from this theory at the quantitative level and rather than analyzing all the metaphorical-related words, I selected only five examples for each article. Indeed, this selection of items will provide sufficient evidence to infer conceptual organization. Although, sample selection was random, for the sake of consistency I selected two examples from the beginning of each article, one from the middle and two from the end. In addition, the selection is not focused primarily on lexical metaphors, but also on metaphorical entailments and other discursive strategies, such as quantitative and qualitative referential strategies. On several occasions, I select lexical units that, while not metaphorical at the local level, are connected to a conceptual metaphor, as in the case of MORE IS POWER when an hyperbolic number stands for more power.

In a second phase, I grouped the textual samples considering their topic at the global level. After this thematic organization, I proceeded to match each sample at the local level with the correspondent conceptual metaphor and its basic schema. Once all data had been analyzed at the different levels of discourse I then inferred percentages that would prove the accuracy of my hypotheses. I created a corpus that included all relevant information regarding my study. In terms of general information, this corpus comprises

title of the articles, date, and newspaper source. At the level of linguistic analysis, this corpus presents all the items analyzed organized by: global topic, conceptual metaphor, and lexical item. All these data can be found in the Appendix section. Finally, drawn upon those data, I organized all significant information on tables and graphs that are inserted in the analysis chapters, as well as in the conclusion in order to facilitate their accessibility.

As part of the objectives, this work needed to look at public opinion polls to determine public reception of the nuclear age. In order to do so, the Gallup Polls from 1945 to 1991 were consulted. As a secondary source, polls from The Public Opinion Quarterly were also used to corroborate the results. In the preliminary search, the Gallup Polls Cumulative Index was accessed to create a database of all the surveys in nuclear affairs. In the second stage, all these data were collected and organized thematically and chronologically. In a final stage, data drawn from the corpus was contrasted to the polls to see if there was a correspondence between the language, and consequently the ideological approach of the different newspapers, and the opinion of the public. This final stage was essential in order to draw conclusions about manipulation, belief-formation and language use.

3. REVIEW OF LITERATURE

3.1. Categorization, Conceptualization and Simulation

How are concepts stored in our mind? Imagine an abstract sensation, emotion, or feeling and think about how we define it mentally. It might appear to be a simple question, but the way we conceptualize events, especially abstract processes or emotions, is much more complex than it might seem. In Cognitive Psychology, the general assumption is that ideas are produced in our brain, where they are translated from the brain's code into the syntax of language (Ritchie, 2006).

In a broad sense, it can be assumed that, as a general rule, we comprehend the world through language. Hence, any human practice needs to be mapped onto a concept that already exists in the linguistic domain in order to comprehensively enter the realm of meaning (Fauconnier, 1994). Human beings need to label and categorize any item in the external world within their internal mental structure in order to recall the item and reuse it when necessary. In fact, this process is fundamental to human cognition, because we are in constant contact with a variable world that compels infinite definitions. Within Cognitive Science, this procedure is called conceptualization, which according to Hart (2010: 25) is an 'online' cognitive process by which human beings construct meaning during discourse, resulting in mental representations of a situation or event.

However, we cannot conceptualize a universe of infinite meaning without the aid of a finite system of symbols. Indeed, such symbols allow the human mind to record—with remarkable efficiency—an endless flow experiences within a finite mental system (Barsalou, 1999). Categorization implies being able to condense a large quantity of data

into a few values (Feldman, 2008: 96). In order to efficiently manage these data, we utilize an organized system in which new information is attached to already stored experiences (Atchinson, 1987).

When a new concept is created, an internal mechanism known as the mental lexicon stores it in the brain (Atchinson, 1987). It is a complex system of meanings and perceptions that facilitates the identification of the external world by association with already known concepts. However, storing new meaning within our mental lexicon is more than just a mere association of new information with old; processing new concepts requires different types of relations. Feldman (2008: 37) states that in a neurological ecosystem of dense and abundant connections, isolated abstract thought cannot exist. Atchinson (1987: 43), indeed, maintains that 'for each word we have an internal list of essential characteristics, and we label something as cat, or square, or cow only if it possesses the 'criterial attributes', which we subconsciously check off one by one'. Atchinson adopts the '*check-list theory*' proposed by Fillmore (1975), according to which any concept possesses a distinct set of characteristics. Because they are interconnected and cannot exist in isolation, these lists are comprised of related words that complete the meaning for one another. New elements are integrated within a category that has been previously built. Its features are extended to include the new member of the set. The question here is how those meanings are associated, how networks of meanings are activated, and to what extent those connections are permanent or temporary.

The fundamental scope of Cognitive Psychology is to investigate cerebral processing of new information. Barsalou (1999, 2003) explains that the process by which a concept is stored in our mind as part of our mental lexicon is based on a selection of

simulators and perceptual symbols. A simulator must be interpreted here as a replica of our conceptual system of a perception. As Barsalou (1999: 598) puts it, 'on recognizing a word, the cognitive system activates the simulator for the associated concept to simulate a possible referent. On parsing the sentences in a text, surface syntax provides instruction'. Following this perspective, concepts are processed as perceptual simulations and stored up in an interconnected set of networks that provide them with a definition based on an array of different simulators working together. For Ritchie (2006: 97) 'thinking is accomplished by a parallel neural system that *simulates* perceptions, down to the level of raw sensory and motor interactions with the world'. We build perceptual simulators in order to manage and comprehend events (Barsalou, 1999: 605).

The conceptual neural system creates simulated experiences that are taken from similar former practices. The representation of experiences in our memory is carried out by connections among neuron groups that during the process of reconstruction simulate different aspects of our experience. Those experiences involve diverse sensory modalities distributed in different areas of the brain (Ritchie, 2006: 186). Ritchie (2010: 115) argues that 'in order to store new meaning our brain updates information and moves it to our mental lexicon, from short-term memory and abstracted in the conceptual system or working memory for further consolidation and abstraction'.[7] There is a dual organization of experience comprised of the perceptual system in which events are built as experiences and the conceptual system in which those experiences are abstracted from former perceptual experiences through simulation (Ritchie, 2006: 100-101). These two systems, the perceptual and the conceptual, are in constant interaction; in our experience of the

[7] This idea connects with Hart's (2010: 112) claims about the fact that linguistic representations that reflect conceptual structures located in long-term memory–more specifically, as we will see later on, in social memory (Van Dijk, 1998)–, which provide cultural experience though cognitive models.

world, we go from actual perception to perceptual simulations that enable us to identify and categorize the events experienced. These strategies are considerably flexible and allow the perceiver to understand what at first glance might appear to be impossible (Ritchie, 2006: 103).

However, in the process of assimilating a new term, the simulation of a perception is not sufficient to fix a new element within an existing category. Whenever we are processing new meaning, a mapping between different conceptual schemata takes place in order to administer the mental coordinates that would define that meaning (Fauconnier, 1994). In the course of simulation, the new concept is integrated within a semantic frame that equips it with contextual meaning (Fillmore, 1982). Mapping and framing are two essential elements in word conceptualization. Indeed, the type of network that emerges as a result of a conceptualization depends on the cognitive context (Ritchie, 2006: 110). Concrete elements are easier to simulate whereas abstract concepts are inclined to have a further subjective simulation and contextualization. The position of an abstract term within a specific context or frame might modify considerably its simulation, and consequently its interpretation and mental storage.

3.1.1. Framing and Contextualizing *social* meaning

In order to incorporate a new element into our mental lexicon, we need to associate it with preexisting concepts. I have used a theory that is mostly presented and supported within the field of Cognitive Psychology, the aim of which is to see how the brain works to process new information. As we saw in the previous section, authors such as Barsalou (1999, 2003) or Ritchie (2003, 2006, 2009) presume that thinking is

performed by means of simulations—either conceptual or perceptual—that aid the interpreter in the organization of new meaning. When people are reading a text, there are simulations that allow them to create a semantic interpretation and a mental representation of the event (Barsalou 1999: 292). However, the way a new event is conceptualized in our mind is not just a mere question of mental processing; it also entails contextualization within the cultural environment. This aspect is essential in abstract processing, in which individual experience of the world is not sufficient to simulate the new perception.

As Barsalou (1999) claims, there are three relevant strategies in simulation theory: a background framing that locates the event within a context, partial selection of the perceptual simulation, and perceptual symbols that are able to represent introspective events. Used together, these three mental activities allow for the creation of abstract concepts. The idea of the frame has been used in relation with simulation theory for a long time. A frame represents the organization of knowledge that is a prerequisite to our capability to understand the meaning of associated words (Fillmore, 1985: 224). Conceptual frames are packages of information that are activated according to the communicative needs of an event and are essential for the successful understanding of the online meaning. Frames are structures that represent experience within a cultural domain by means of encyclopedic knowledge (Hart 2010: 108). As Ritchie (2006: 105) observes: 'at the social level, a frame is a cultural element, such as a symbol, phrase or image, that is associated with and, when perceived, activates a particular cognitive frame in members of a group or culture'. These contextual frames play the role of 'emphasizers' that bolster and contribute to the production of a particular context of interpretation. The receiver,

while simulating a perception, will inevitably include peripheral information to enlarge and enrich the new cognitive model.[8]

As a rule, it should be assumed that in the simulation of a new perception, many peripheral processes are involved to collocate it within a specific interpretative scenario. As on a movie set, a simulation requires a background context composed of diverse frames that stratify information in order to provide a complex network of interrelated meanings. A conceptual structure includes introspective, emotional and motor responses, along with semantic connections between phrases and words (Ritchie, 2006: 149). As Ritchie (2006: 203) argues:

> Simulators are interconnected, on the basis of experienced correlations, in assemblies such as schemata and frames. A schema is a densely connected network of perceptual simulators (including symbols, words, and other linguistic elements), related a class of object or events […]. A frame is a coordinate set of schemata that identifies a topic or a point of view.

Together, schemata and frames provide a context of interpretation that behaves as scaffolding for the simulation of a new event. In order to facilitate meaning comprehension, there are semantic networks that work together to expand and compress new elements within a frame (Ritchie, 2006: 110).

Based on the ideas of a theory of mental simulations proposed by Cognitive Psychologists, we could presume that representations are founded on individual experience. However, far from being personal and unique, all mental representations have a social origin. In other words, these frames have to be shared by a group to work

[8] Langacker (1997: 235) argues that 'expressions are seen as being meaningful by virtue of evoking multiple realms of knowledge and experience—I call these cognitive domains—in a flexible, open-ended manner'.

efficiently at the cognitive level.[9] Halliday (1985: 219) considers this aspect as essential for communication: 'a context of speech is itself a semiotic construct, having a form (deriving from the culture) that enables the participants to predict features of the prevailing register—and hence to understand one another as they go alone'. Similarly, Van Dijk (1998: 20) argues that 'the cognitive characterization may be in terms of the ways beliefs are represented, that is, in terms of relations between nodes in a mental network'.

When we conceptualize an event, some context-relevant simulators are activated, whereas others are suppressed (Ritchie, 2006: 132). Perceptions are framed against a particular background that is just partially defined, leaving out unnecessary or unwanted aspects of that perception (Barsalou, 1999). When speakers or writers choose a particular context, they are—whether intentionally or not—making a selection based on their own experience and interests. Frames locate meaning within specific coordinates that are part of a larger schema of interpretation.

[9] This idea connects with Van Dijk's (1998, 2004) theory about social cognition and context models. Frames configure networks of meaning within a mental model, but they are, in a sense, ideologically constructed. The ideological context in which frames are generated is crucial to observe how cognition and ideology work together.

3.2. From Schema to Metaphor in Meaning Construction

An abstract concept that takes place for the first time within the boundaries of a social group requires linguistic strategies to captured and stored within the individuals' mental lexicon. Meanings are just conventionalized conceptualizations that exist within a frame of meaning (Dirven et at. 2003). We possess a set of simplified categories that are part of our belief systems and that contribute to our experience of the world (Van Dijk, 1998).[10]

According to Johnson (1987: 2), a schema is an abstract pattern in our experience that structures our understanding thereof. Schemata must have an internal structure that allows for the emergence of meaningful inferences. These schemata, as the basis of conceptual meaning, would have metaphorical extensions. As the building blocks of conceptualization, they facilitate the existence of primary structures of thought employed to create tension between disparate domains. For Johnson (1987: 29):

> A *schema is a recurrent pattern, shape, and regularity in, or of, these ongoing ordering activities*. These patterns emerge as meaningful structures for us chiefly at the level of our bodily movements through space, our manipulation of objects, and our perceptual interactions.

In other words, schemata are structures that, based on our embodied experience of the world, facilitate the emergence of meaning at the conceptual level (Johnson, 1987). Rather than mere templates, schemata are flexible enough to produce an infinite number of instantiations depending on the context. Thus understanding is not a fixed process but a perennially evolving activity in which the organizing structure of schemata partially form our experience of the world (Johnson, 1987: 30). Schemata are pervasive and

[10] According to Lakoff (1987: 69), we organize knowledge by means of 'idealized cognitive models', which are idealized models of experience. Or what is the same in Hart's (2010: 113) view 'systems of representations shared by members of a speech community'.

constitutive of our experience of ordinary events; and while so conventionalized that they are taken for granted, it is important to acknowledge their power to construct meaning (Johnson, 1987: 31). Paramount to the structure of meaning, schemata affect the way we reason and make sense of things (Johnson, 1987: 38).

Metaphors are projections of these schemata in which the inferential structure of the superordinate schema is maintained (Johnson, 1987: 40). Schemata possess certain type of embodied qualities that are materialized in instances of conceptual metaphors. While schemata are abstract elements in which there is no tension but just structure, the main feature of metaphor is the activation of some type of comparative association between two domains where A is B, such as in 'love is a journey'. The conceptual mapping that takes place in metaphorical representation conveys some kind of new representation (Knowles and Moon, 2006) of semantic frames that are activated during online discourse (Knowles and Moon 2006, Lakoff 1989, Hart 2010).

Within metaphor theories, Lakoff and Johnson developed a cognitive perspective with their book *Metaphors We Live By* (1980). This work constituted an innovative move that brought metaphors from the literary domain into the field of Cognitive Science and Linguistics. For Lakoff and Johnson (1980: 3), metaphor is much more than a literary device, because it is 'pervasive in everyday life, not just in language but also in thought and action. Our ordinary conceptual system, in term of which we both think and act, is fundamentally metaphorical in nature'. Lakoff and Johnson (1980: 3) assert that: 'if we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do everyday is very much a matter of metaphor'. This aligns with the previously presented premises of perceptual simulation because

metaphors facilitate the emergence of a network of meaning that structures the conceptualization of new events.

Since 1980, Lakoff and Johnson have advocated the study of metaphors in different ways, establishing a theory of metaphors now widely applied. In 1993 George Lakoff published an article called *The Contemporary Theory of Metaphor* where he revisited the theories presented in *Metaphors We Live By*—now considered the canonical work in metaphor theory—extending and improving some of its central concepts. In 1999, these authors reevaluated their work on conceptual metaphors in order to refine it and clarify its weaker aspects. In 2003, they reedited *Metaphors We Live By*, including an afterword in which they addressed the work's major controversies. Regardless of its relative strengths and weaknesses, their Contemporary Theory of Metaphor is still the core work for the study of metaphors in Cognitive Linguistics. More and more, linguists have brought their research within the domain of metaphor, thought, and ideology.[11] Joseph Grady (1997: 5) has supported Lakoff and Johnson's theory, claiming that our experience of the world is primarily metaphorical:

> If there are patterns of linguistic and conceptual correspondence that arise from the kinds of experiences discussed here, then metaphor is an inevitable—rather than merely an interesting, useful, or powerful-phenomenon of language and mind, and there are specific metaphors which are particularly likely to arise.

For Ritchie (2006: 105), metaphors are essential to conceptualization because they serve as external mnemonic devices that allow an unlimited expansion of our working memory. He claims that context activates a particular type of simulator while leaving others

[11] Chilton, Chateris-Black, Grady, Musolff or Semino are some of the most prominent authors in this field.

inactive.[12] Ritchie argues that there are primary and secondary defining sets, where metaphorical definitions are always secondary. Whenever we use a metaphor to define something, we separate it from its core meaning so as to create a particular contextual definition.[13] Grady (1997: 5) states that concepts related via metaphorical thinking are not similar objectively, but rather by association. Metaphor possesses socially constructed qualities. In fact, Hart confirms that metaphor sustains the coherent organization of reality that ideology requires in order to work effectively (Hart, 2010:113). Similarly, he (2010: 127) observes:

> It is usually, of course, complex social situations and events which are disconnected from the text-consumer's direct experience that get described in political discourse. Metaphor is therefore an ideal cognitive resource for conceptualizing these realities and communicating about them.

We have seen that simulations are the neural process by which we store meaning in our mental lexicon. Simulators operate equally in the realms of physical experiences and emotions. The mind is basically capable of simulating any type of experience. However, as previously argued, when approaching abstract events, simulators are not entirely efficient, as Ritchie (2006: 125) notes:

> Experiences of an emotional, aesthetic, or spiritual character present a finer gradation of nuances that can possibly be captured by a typical person's working vocabulary. Thus, metaphor is an indispensable part of both language and thought, allowing us to think and communicate about subtle aspect of experience that would otherwise be inaccessible to both thought and language.

In order to grasp the singularities of new, abstract concepts, the receiver is exposed to subtle strategies that associate new meaning with previously stored content in a relatively arbitrary manner, leaving room for manipulation. Metaphors alter perception by virtue of

[12] Once again systematic method for linguistic, Ritchie's ideas are similar to what Lakoff and Johnson presented in 1980, the notion of 'highlighting and hiding' is applicable in both theories as a way to show that metaphorical mapping can be biased.
[13] See Pragglejaz Group (2007) to find an extended explanation of literal and contextual meaning.

the suppression of context-irrelevant simulators, and the activation of context-relevant simulators that are connected to the vehicles (source domain) and linked to the topic (target). By selection, metaphors can be employed as extremely powerful ideological strategies, because they constitute a partial way of providing information about an event (Ritchie, 2006: 169).

Text-consumers are not always aware of the fact that they are processing metaphors—especially in the case of conventional metaphors (Hart 2010: 127). Certain representations, indeed, are assumed to be neutral and accurate while they are metaphorical and driven towards a particular construal (Hart, 2010: 127). Mapping between domains is partial: since only some parts of the source and the target domain are involved in the process, text-producers may opt to leave out elements that they consider unnecessary (Kövecses 2002: 83).

The study of the interpretation of metaphorical thinking can supply precious insights into the operations of the brain and the very nature of language (Ritchie, 2006: 4). In fact, the study of metaphors provides a way to see and understand how public discourse is structured on the basis of a certain kind of metaphorical selection, becoming a powerful tool for the critical analysis of the intentional architecture of social inequities (Johnson in Hart & Lukes eds., 2007: 34).

3.2.1. Conceptual Metaphors

The study of metaphors implies a preliminary distinction between metaphors that occur at the conceptual level and linguistic metaphors expressed at the textual level. As Kövecses (2002: 4) argues:

> A conceptual metaphors consists of two conceptual domains, in which one domain is understood in terms of the other' whereas [linguistic metaphorical expressions] are words or other linguistic expressions that come from the language or terminology of the more concrete conceptual domain.

Conceptual metaphors have a target and a source domain that correspond to neural structures connected in the brain to create some correlation or similarity between two or more domains (Kövecses, 2006: 130). Kövecses (2006: 116) identifies the following components within conceptual metaphors:

- the source domain, usually a physical domain
- the target domain, typically an abstract domain
- the basis of metaphor: an instance of similarity between domains
- the neural structures that correspond to source and target in the brain; brain connection by neural circuitry
- the relationship between the source and the target; a source domain can apply to different target domains and a target domain can have different sources
- metaphorical linguistic expressions, derivative of two conceptual domains being connected
- mappings, which explain particular metaphorical expressions
- entailments, or inferences from a conceptual mapping of two domains
- aspects of source and target, where only certain aspects are mapped
- blends, the result of the conceptual integration of different domains
- 'nonlinguistic' realizations, not only in language but also in social-practice and reality
- cultural models, frames that operate in thought

Primary metaphors

It has already been demonstrated that metaphors have an experiential basis. At a basic level, and similarly to schemata, metaphors are grounded in the receivers' cultural and embodied experience of the world. Grady (1997: 135) denominates these types of basic mappings as primary metaphors:

> Primary source concepts have 'image content'—they are related to bodily sensation and perception (in any modality) […] primary source concepts refer to 'simple' experiences rather than complexes of more basic scenes and concepts. Like the primary scenes in which they figure, these are experiences, which take no more than a 'moment' to unfold […] primary source concepts must (plausibly) refer to universal elements of human experience. (Grady, 1997: 135)

In essence, primary metaphors are basic properties, actions, relations and processes with a specific significance in our interaction with the world (Grady, 1997: 151). Grady (1997: 135) explains that 'metaphors link the basic "backstage" operations of cognition with the kind of sensory images (in any modality) that we are most able to maintain and manipulate in our consciousness.' From Grady's theory it can be inferred that primary sources grounded in our physical experience of the world structure primary target domains, giving rise to primary metaphors. Grady (1997: 45) provides interesting examples such as THEORIES ARE BUILDINGS, which under the light of a primary analysis should be presented as ORGANIZATION IS PHYSICAL STRUCTURE or VIABILITY IS ERECTNESS. Grady's theory reveals the conceptual nature of metaphor itself, proving that metaphorical mappings are inherent to and implicit in conceptualization. For Grady (1997: 101) 'each of these primary metaphors is in sum associated with a primary scene—a kind of experience each of us has every day, in which distinct dimensions of conscious experience (subscenes) come together in tightly coherent ways'.

Certainly, some of the most important metaphors of power, such as IMPORTANT IS BIG, POWER IS ABOVE, and IMPORTANCE IS HIGH (Goatly, 2007: 35) can be considered primary metaphors. In these types of primary metaphors there is a basic level of continuity between our experience of the world and our situational position. In fact these metaphors are intertwined, scaffolding complex abstract meanings such as power or relevance. Similarly, in more elaborate examples such as ACTIVITY or PROCESS IS MOVEMENT FORWARDS (Goatly, 2007: 51), one can find the grain of a primary origin that has been expanded.

One of the key aspects of Grady's theory is that primary metaphors are by definition general, basic and non-specific. Supported by our experience of the world, they work at a very basic level of understanding, a direct subordinate of conceptual schemata. Primary conceptual metaphors can be established as the foundation of conceptual thinking. However, as the process of conceptualization grows in social and linguistic complexity, more and more intricate networks of metaphorical mapping emerge to create diverse layers of meaning.

Structural, ontological and orientational metaphors

Beyond the array of primary metaphors, there are other types—structural, ontological, and orientational—consistently identified as the most common organization of conceptual metaphors. This taxonomy is similar among different theoretical approaches (Lakoff and Johnson, 1980; Kövecses, 2006, 2010; Grady, 1997; Chilton, 2004). Structural metaphors are those in which the target domain is understood in terms of the structure of the source domain. They are formed by conceptual mapping of the

structural qualities of one domain onto the other. For example, understanding time in terms of other basic categories, such as 'the passing of time is motion' will produce metaphorical expressions such as 'the time will *come* when…' or 'the time for action *has arrived*' (Kövecses, 2010: 38).

Ontological metaphors are used to map more concrete qualities onto an abstract target domain. Kövecses (2010: 38) observes that 'their cognitive job seems to be to 'merely' give a new ontological status to general categories of abstract target concepts and to bring about new abstract entities'. Ontological metaphors serve to deal with experience: indeed, they allow us to select parts of our abstract experience and treat them as discrete entities (Lakoff and Johnson, 1980: 25). Consequently, delineated aspects of more concrete domains are mapped onto less defined experiences. These types of metaphors provide a more tangible structure and, as Kövecses (2010: 39) notes, 'once a 'nonthing' experience has received the status of a thing through an ontological metaphor, the experience so conceptualized can be structured further by means of structural metaphors'. Some examples of this type, can be 'life *has cheated* me', where life is a person; or, 'my mind is *rusty* this morning' where the mind is conceptualized in terms of a physical object or a machine (Kövecses, 2010: 39). Within ontological metaphors we find personification, which is used to provide human qualities to inanimate objects. While it might appear that personification is more common in literature, it also abounds in other discourses as a powerful way of conceptualizing abstract events (Lakoff and Johnson, 1980; Kövecses, 2010).

Orientational metaphors are founded on the basis of human spatial understanding (Kövecses, 2010: 40). Abstract concepts get mapped onto spatial aspects of human

experience. Orientational metaphors based on the axis UP-DOWN can be expressed with linguistic metaphors such as, 'he *fell* ill', 'wake *up'* or 'she's an *upstanding* citizen'. (Kövecses, 2010: 40). However, according to Lakoff and Johnson (1980: 14) 'such metaphorical orientations are not arbitrary. They have a basis in our physical and cultural experience. Though the polar oppositions up-down, in-out, etc., are physical in nature, the orientational metaphors based on them can vary from culture to culture'. For Grady (1997: 16), the embodied experience is fundamental for the generation of metaphorical thinking:

> When a person points back over her shoulder when referring to the past (though not necessarily using any lexical items associated with a spatial conceptualization of time), she suggests that there is a cognitive correspondence of some kind between the past and the concept of 'back' or 'behind'.

Within orientational metaphors, some authors have also included image-schema metaphors (Johnson, 1987; Kövecses, 2010). These types of metaphors are based on the image-schematic structure of the source domain that gets mapped onto the target domain to provide it with the basic skeletal structure of more abstract domains (Kövecses, 2010: 43). The examples proposed by Kövecses (2010: 43) are 'I'm *out of* money' or 'I'm feeling *low'*; as we see, they are very similar to those presented as orientational metaphors.

Complex metaphors

Primary metaphors, and conceptual schemata can be found at a basic level of interpretation. But metaphors can also form clusters structuring more sophisticated thoughts. When text-producers need to assemble a complex stream of ideas, metaphor systems work together to provide an elaborate perspective. Grady (1997: 224) designates these processes as complex metaphors. These clusters can be defined as network models

where primary metaphors act as links between concepts that are simultaneously activated to form a set of interrelated meanings. Kövecses (2002: 123) calls these clusters 'metaphor systems' and distinguishes two main groups:

> Two large metaphor systems have been suggested: The Great Chain of Being metaphor and the Event Structure metaphor. The Great Chain metaphor system accounts for how objects, or things, in the world are conceptualized metaphorically, while the Event Structure metaphor system describes how events (and events as changes of state) are understood.

The Great Chain of Being metaphor is based on how things are associated to one another in the world. At its core, it is just a hierarchy of elements that becomes metaphorical when a level of the chain is applied to interpret another level (Kövecses 2010: 154). To a certain extent, these can be interpreted as a more elaborate version of Lakoff and Johnson's ontological metaphors (1980).[14]

The Event Structure Metaphor conceptualizes events in terms of their structure. Lakoff (1993: 220) states that 'various aspects of event structure, including notions like states, changes, processes, actions, causes, purposes, and means, are characterized cognitively via metaphor in terms of space, motion, and force'. Kövecses (2010: 163) summarizes the complete system that Lakoff (1993) designed as follows:

- STATES ARE LOCATIONS
- CHANGES ARE MOVEMENTS
- CAUSES ARE FORCES
- ACTION IS SELF-PROPELLED MOTION
- PURPOSES ARE DESTINATIONS
- MEANS ARE PATHS

[14] Indeed, the Great Chain of Being is not something new. Having its origins in the Aristotelian Philosophical tradition, it was reproduced and developed by many different authors during different periods with diverse results. One of the most relevant contemporary approaches is on account of Lakoff and Johnson (1989).

- DIFFICULTIES ARE IMPEDIMENTS
- EXTERNAL EVENTS ARE LARGER, MOVING OBJECTS
- EXPECTED PROGRESS IS A TRAVEL SCHEDULE
- LONG-TERM, PURPOSEFUL ACTIVITIES ARE JOURNEYS

In event structure metaphors, there is an image transposition where parts of the physical structuring are poured into the abstract category.

For Kövecses, isolated conceptual metaphors are grouped together to form larger structures that account for innumerable metaphorical expressions; in fact Kövecses (2010: 152) observes that 'the claim is that the metaphorical conceptualization of a large portion of what we view as things and what we view as event can be successfully accounted for with the help of these systems'. Metaphors do not function individually; they form networks of contextual frames that structure perceptions. In this sense, the more intricate the web of meaning is, the higher the chances of a biased perception. In addition, by means of unconventional metaphors, new meanings emerge to create a novel perspective in the receiver's mind. Complex metaphors are in the majority of the cases highly innovative and unique, adapting themselves to the needs of the text-producers. These text-producers would take advantage of the natural condition of primary metaphors as embodied and experiential in order to expand those innate meanings into a complex new perspective.

However, the analysis of metaphors has evolved in recent years to incorporate new categories. Numerous authors such as Grady (1997), Johnson (1997), Kövecses (2006, 2010), and Semino (2008) have expanded the complexity of conceptual metaphors with new perspectives. All these authors agree on the fact that the nature of conceptual

metaphors is more complex than what Lakoff and Johnson would believe; for them further research is required to clarify the nature of metaphor.

Conceptual Blending

Up to this point, it has been argued that conceptual metaphors are the best way to approach an analysis of the processes of mental representations. However authors such as Hart (2007, 2010, 2011) have claimed that a theory of Conceptual Metaphors would not satisfy Critical Discourse Analysis (CDA). For Hart, conceptual metaphors focus only on the conceptual aspects of metaphorical thinking whereas CDA requires an analysis that targets the online production of metaphorical thinking. Ruiz de Mendoza & Pérez Hernández (2011: 161) argue that the Contemporary Theory of Metaphor' is still in need of development in a number of areas, particularly in relation to its communicative impact.

Fauconnier and Turner (2002) maintain that instead of using a more rudimentary metaphorical analysis, the idea of conceptual blending should be considered in order to understand the intricate relationship between discourse, ideology, and cognition. According to these authors, any theory of conceptual mapping must take into consideration that online conceptualization is more than mapping A onto B. As presented by Ruiz de Mendoza & Pérez Hernández (2011: 161), 'these dimensions of metaphor theory cannot be adequately dealt with unless we have a better understanding of such issues as what is meant by the notion of 'mapping' and of how metaphor works at different levels of conceptualization.'

What is significant in terms of conceptualization is not the metaphors employed but the conceptual frames where they are located: like a 'prototype theory' applied to an

abstract set. The major problem with a theory of conceptual metaphors arises with an interpretative perspective that aims to study discourse interpretation rather than production. Christopher Hart proposes that Blending Theory (henceforth BT) should be adopted instead as a model of conceptualization throughout discourse, being more appropriate to analyze metaphorical thinking at the interpretation phase (2010: 114).

In their book *The Way We Think: Conceptual Blending and the Mind's Hidden Complexity* (2002) Fauconnier and Turner claim that in order to understand knowledge of the world, we need to create a conceptual integration network in which the receiver blends different mental spaces in order to generate an emergent space where new information is located. This theory implies the existence of different mental spaces, which are 'small conceptual packages constructed as we think and talk' (Fauconnier and Turner, 2002: 40). In conceptual integration there are at least four conceptual spaces. Consisting of two or more input spaces, generic input spaces contain information from different backgrounds. Part of that information undergoes a cross-space mapping connecting 'counterparts in the input mental spaces' (Fauconnier and Turner, 2002: 41). The third type of conceptual space, known as the generic space, contains common elements of the different inputs. In the fourth type, structure from the different inputs is projected into the blend, creating a new emerging space that contains information that does not exist independently in the inputs. The basic diagram of an integration network according to Fauconnier and Turner (2002: 44) is:

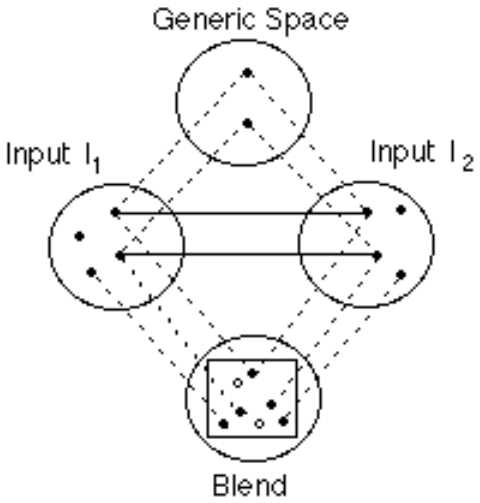

Figure 1. The Basic Diagram of Conceptual Blending

The most salient example within this theory is the riddle of the Buddhist Monk;[15] however, I personally prefer the metaphorical idiomatic expression *to dig one's own grave*.[16] For Fauconnier and Turner (2002: 132) expressions such as this require an interpretation more elaborate than mere metaphorical mapping can provide. The double-scope blend *to dig one's own grave* 'inherit[s] the concrete structure of graves, digging and burial, from the 'digging the grave' input. But it inherits casual, intentional, and internal event structure form the 'unwitting failure' input' (Fauconnier and Turner, 2002: 132). The bottom line of this example is that there is a double-scope cross-domain mapping where the two inputs are not just juxtaposed, but a new emergent structure that is specific for this blend (Fauconnier and Turner 2002: 133).

[15] A Buddhist monk begins at dawn one day walking up a mountain, reaches the top at sunset, meditates at the top overnight until, at dawn, he begins to walk back to the foot of the mountain, which he reaches at sunset. Make no assumptions about his starting or stopping or about his pace during the trips. Riddle: is there a place on the path that the monk occupies at the same hour of the day on the two trips?

[16] According to the Macmillan Dictionary Online: the expression *to dig your own grave* means: to do something that will cause serious problems for you in the future. The entry can be found in http://www.macmillandictionary.com/dictionary/british/dig#dig-your-own-grave (Last time accessed: 10/12/2013)

The main difference between BT and CMT is that cross-mapping conceptualization is not a question of source and target domains but of a more complex array of mental spaces that combined together make the emergence of new conceptual meaning possible. Similarly, understanding meaning entails the creation of a blended cognitive model from different input models that simulate the event. Conceptual Blending Theory presents a more complex process where different structures from diverse lexical levels are integrated to simulate an act of perception.

One of the most attractive aspects of this theory is that the blend occurs as an online process in discourse. BT assumes that various kinds of mappings can be merged to create a particular meaning, enabling conceptual metaphors to have an online representation. By means of this blending the receiver filters the information, which has been taken from a shared cultural model, into his personal model. By means of blending the receivers incorporate spontaneous and novel conceptualizations in the new cognitive model (Coulson, 2006). In both conceptual metaphors and conceptual blending, thought is generally structured by cross-domain mapping that builds upon previous knowledge of the world to interpret new meaning.

3.2.2. Metaphorical Linguistic Expression and MIPVU

So far this review has focused on the conceptual level of metaphorical thinking and how the conceptualization of information is generally based on cross-domain mapping. Nonetheless, in text and talk one can have a conceptual cross-domain mapping with different types of linguistic representations like, for example, linguistic metaphors. These linguistic metaphorical expressions are as important as the conceptual metaphor or blend. Lakoff and Johnson (1980: 7) state that:

> Since metaphorical expressions in our language are tied to metaphorical concepts in a systematic way, we can use metaphorical linguistic expression to study the nature of metaphorical concepts and to gain an understanding of the metaphorical nature of our everyday activities.

However, the question here is how to identify linguistic metaphors in an empirical way. The Pragglejaz Group (2007: 3) developed a systematic method for linguistic metaphor identification:

1. Read the entire text to establish a general understanding
2. Determine the lexical units in the text
3. a. For each lexical unit, establish its meaning in context

   b. For each lexical unit, determine if it has a more basic contemporary meaning in contexts other than that given

   c. If so, decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it
4. If the answer is yes, mark the unit as metaphorical

Based on this original model, Steen et al. (2010) have developed the original MIP (metaphor identification procedure) proposed by The Pragglejaz Group into a more elaborate model called MIPVU (metaphor identification procedure *Vrije Universiteit*). While MIPVU follows the main procedure of MIP—agreeing that metaphorical meaning is indirect and emerges from the contrast between basic meaning and contextual meaning—Steen et al. (2010) observe that these metaphorical units can not only be indirect expressions, but also direct expressions such as simile or analogy. Steen et al. (2010: 11) claim that 'if metaphor is defined as a mapping across two conceptual domains, it is easy to show that such cross-domain mapping in thought may also be realized by direct language instead of indirect language and still express metaphorical

meaning'. This is the major divergence between MIP and MIPVU, which transcends indirectly expressed linguistic metaphors to incorporate the study of direct language involving cross-domain mapping (Steen et al., 2010: 57).

When identifying metaphorical items, MIPVU uses the term metaphor-related word instead of linguistic metaphors. According to Steen et al. (2010: 25): 'the term 'metaphor-related words' is used to suggest that the tool aims to identify all words in discourse that can be taken to be lexical expression of underlying cross-domain mappings'. Consequently, the analyst might find different types of metaphor-related words:

- Indirect metaphor-related word (MRW, indirect); when there is a contextual meaning different from the basic meaning of the word
- Direct metaphor-related word (MRW, direct); the basic meaning of the word is used and the cross-domain mapping occurs at the level of context
- Implicit metaphor-related word (MRW, implicit); a word implying a metaphor by ellipsis
- Metaphor flag (MFlag); lexical signs of cross-domain mappings

It is important to keep in mind that neither MIP nor MIPVU aim to specify the nature of the conceptual structures underlying the metaphorical expressions. Both methods, following slightly different methodologies, focus on semiotic structures without attending to the cognitive processes that might be taking place at the conceptual level (Steen et al, 2010: 21).

3.3. Ideology and Media Discourse

Ideology

At the beginning of this section, simulations were presented as the way in which the human mind processes new information. In fact, simulations cannot be processed successfully without frames and contexts, as we need a background of contextual activity in order to understand any type of information (Feldman, 2008: 38). Van Dijk (1998: 236) considers the notion of context essential for communication: 'as soon as people want to speak or write, they first construct a relevant context model. This model selects the relevant information from the speaker's beliefs about the social situation'. Contexts are a necessary set of thoughts that accompany simulations, setting them against a specific background that conveys assumptions and shared knowledge (Ritchie, 2006) and providing significant properties for a particular social situation (Van Dijk, 1998: 211). It is important to note that a context model is demarcated by its social relevance. Context models are always subjective and socially shaped. Simulations require frames where the new information will be allocated; these frames are part of a higher level of interpretation drawn from the cultural beliefs of the group.

Ideology is comprised of a society's system of shared ideas.[17] Within the field of Critical Discourse Analysis, Van Dijk (1998: 49) asserts that ideology must be considered as a cognitive system embedded in social practice: 'ideologies consist of those general and abstract social beliefs, shared by a group, that control or organize the more

[17] Van Dijk observes that there are different historical definitions of 'ideology', but that, 'it is only in a later stage, in the second part of the twentieth century, that more inclusive and less pejorative notions of ideologies develop. Here, ideologies are usually defined as political or social systems of ideas, values or prescriptions of groups or other collectivities, and have the function of organizing or legitimating the actions of the group' (1998: 3)

specific knowledge and opinions (attitudes) of a group'. Thus our understanding of new knowledge is actually comprised of some set of truth beliefs that helps us to understand that new event within the parameters of our ideological background (Van Dijk, 1998). Members of a group share general ideas that are at the basis of more specific beliefs (Van Dijk, 2000: 8). It may be argued that these socially shared beliefs are employed during simulation of perceptions as conceptual contexts. This processing of social context converts any perceptual simulation into an ideological procedure in which the truth criteria of the group will be always applied. These ideologies as Van Dijk (1998: 32) points out 'are social and shared, they feature the social opinions of a group […] the social opinions that constitute an ideology are so general and abstract that they organize clusters of domain-specific social opinions of a group, namely, *attitudes*.' It can be stated that in any mental simulation, a particular attitude will be reproduced by means of an ideological social context. Without question, ideologies are the foundation of a group's beliefs since they provide specific contexts with which to interpret the world. Social interaction becomes impossible without the mediation of ideology.

In a sense, it can be assumed that ideologies emerge from conflict. They bias our interpretation of the world because the generation of a particular context is always conditioned by the shared ideology of a group:

> Powerful speakers may control context structures by requiring or prohibiting the presence of specific participants, setting a time or place, allowing specific gentes and not others, prescribing or proscribing the language or professional jargon spoken, by initiating or changing preferred or dispreferred topics or an agenda for a meeting, by sanctioning formal or informal lexical style, by being polite or impolite, by (requiring) the accomplishment of specific speech acts or the management of turns a speaking, or by opening or closing the interaction, among many other ways text and talk may be controlled. In all these forms of control, it is the social position of the participants, and more generally the ideologically

> based interpretation of the context that is thus being enacted, expressed or constructed in talk. (Van Dijk 1998: 209)

Any time we conceptualize a new event using a contextual frame, we are behaving in accordance with the truth criteria of our group (Van Dijk, 1998). Accordingly, ideologies shape our mind by providing a common set of social beliefs that coordinates and organizes social practices of the members of a group, particularly in regards to important relationships within the group, such as the exercise of power (Van Dijk 1998: 8).

Once new concepts are nailed down within our mental lexicon, they become part of a set of ideological strategies that are soon assimilated as truth beliefs in our conceptual system of knowledge. Van Dijk (1998: 21) claims that beliefs are located in memory. Indeed, this perspective is thematically similar to what has been previously discussed in relation to simulation theory. However, there is a distinction between episodic memory, where we store personal experiences; and social memory, where we store our knowledge of the world and language.[18] The process of conceptualization follows a method by which it is associated with personal experiences—that is, simulations—juxtaposed against contextual frames belonging to our social memory (Van Dijk, 2002: 207).

Within ideology, it is important to notice that we have different social practices that constitute the ideological composition of a group. Van Dijk (1998: 123) believes that discourses, while not the only ideologically based social practices, are the most essential in the formulation and reproduction of ideology within the group. He considers cognition, society, and discourse the nexus in which the analysis of ideology should take place:

> Discourse is a multidimensional social phenomenon. It is at the same time a linguistic (verbal, grammatical) object (meaningful sequences or words or

[18] As Van Dijk (1998: 22) claims, 'beliefs may be constructed, stored, reactivated, organized in larger units, and such processes take place in the accomplishment of all cognitive tasks (which in turn are usually part of social action and interaction)'.

> sentences), an action (such as an assertion or a threat), a form of social interaction (like a conversation), a social practice (such as a lecture), a mental representation (a meaning, a mental model, an opinion, knowledge), an interactional or communicative event or activity (like a parliamentary debate), a cultural product (like a telenovela) or even an economic commodity that is being sold and bought (like a novel). (Van Dijk, 2010: 67)

Discourse(s) can be defined as mental representations, normally organized in sets, shared by members of a given community (Hart, 2010: 184). Semino (2008: 1) defines discourse as 'real instances of writing or speech which are produced and interpreted in particular circumstances and for particular purposes'. For Talbot, society is constituted by the existence of discourses of shared meanings (2007: 8). Discourse is social in nature, because it is 'embedded in social situations and social structures. And conversely, social representations, social relations and social structures are often constituted, constructed, validated, normalized, evaluated and legitimated in and by text and talk' (Van Dijk 1998: 6).

Discourse is powerful at different levels, having a very special role in the perpetuation of ideologies, since it reveals not merely beliefs but also forms of interaction (Van Dijk 1998: 23). Moreover, in order to gain precise information about ideological processes one must look at their cognitive aspects. It is not possible to explain discourse without an analysis of cognition and how it shapes and is shaped by social practices (Van Dijk 1998: 10). Discourse transforms or creates objects in accordance with the ideological shape of the organizations in which they were constructed. In this sense, discourses constitute social life in a restrictive way (Fairclough, 1992: 34). Text and society are necessarily mediated by a common social cognition that helps members to properly understand the exact meanings of the texts with the aids of social memory (Van Dijk,

2009); that is, discourse does not only present a set of determined truth-values, but it also provides a network of conceptual frames in which new elements are attached.

The conceptual aspects of discourse are essential in order to understand simulation within the domain of ideology and manipulation and vice versa. The processes by which conceptualization is performed are based on ideological conceptual strategies.[19] Beliefs are distributed and shared mentally by the members of a group. These beliefs are relevant for the identity-formation of each member, because ideologies normally deal with relevant aspects of the idiosyncrasy of a group (Van Dijk, 2011: 382).

Media Discourse

For any new element born within the limits of a society, there is a voice that defines and names it for the people using that linguistic system. Any time a new event needs to be defined, institutions require the use of conceptualizing strategies to incorporate the new item within the established system of beliefs (Van Dijk, 1998). The discourses disseminated in the service of that operation constrain the views of the event to those officially sanctioned.

Authors such as Van Dijk (1988, 1991, 1996), Wodak (1989, 2005), Fairclough (1989, 1992, 1995), Talbot (2007) or Hart (2008, 2010, 2011) assert that the creation of knowledge is inextricably linked to public opinion. In order to create an opinion, institutions use different channels, such as political speeches or word of mouth comments. However, the most powerful within this hierarchy will always be the media (Van Dijk

[19] Whenever a concept is created chances are that a new belief is being generated since 'the knowledge sanctioned or legitimized as true through discourse and through the language one speaks usually acquires the appearance of objective commonsense' (Goatly, 2007: 27).

1998: 109). What makes media discourse so powerful is its potential to present new events and create opinion about them:

> One obvious reason why narratives are so prominent in the media is that the very notion of reporting centrally involves recounting past events, i.e. telling the story of what happened, and much of media output consists of or includes reports. But the social purposes of journalism are, as we saw above, complex; journalists don't only recount events, they also interpret and explain them, try to get people to see things ant to act in certain ways, and aim to entertain. (Fairclough 1995: 91)

Text-receivers normally gain information about their system of beliefs from the media and it is through the media that they construct their own conceptualizations about new events.[20] To create a fictional discourse that recounts a particular story in service to ideological purposes, a journalist must use social frames easily recognizable by newsreaders in order to elicit the desired effect.[21] Fairclough (1995: 52) believes that:

> Media texts constitute a sensitive barometer of sociocultural change, and they should be seen as valuable material for researching change. Changes in society and culture manifest themselves in all their tentativeness, incompleteness and contradictory nature in the heterogeneous and shifting discursive practice of the media.

Media has a persuasive and symbolic power because it has the ability to influence the minds of readers, but not a direct capacity to control their actions (Van Dijk 1995: 10). It is a powerful entity that can process ideological opinions in such a way that consumers accept them as truth beliefs without hesitating or questioning them (Van Dijk 2001). Talbot (2007: 3) states that the media is now the primary source of information that society uses to interpret the world, replacing older institutions.

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[20] According to Talbot (2007), media texts are produced under the scope of institutional contexts that are based on shared frameworks, norms, or images. Talbot's idea follows the principles of 'simulation'.

[21] The idea of fictional discourse (Fairclough 1995), where the story is totally metaphorically constructed under the influence of particular sensationalist interests, can be viewed under the light of framing theory and also partial simulation proposed by Barsalou.

The media occupies a relevant position in the formation of identities and societies. As a secondary voice that appears to be detached from authority, media discourse is perceived, in terms of social interaction, as a much more reliable narrative. At the cognitive level, and in connection with the idea of simulation and framing of a novel event, media discourse facilitates the process of conceptualization, being more effective in the construction of truth beliefs (Van Dijk 1998, Fairclough 1995, Hart 2010). Indeed, media—with all its genres—has to be examined in detail in order to see the ways in which it is organized so as to be more ideologically effective (Van Dijk 1998:187).

As claimed by Fairclough (1995: 113), 'the general point is that one should also ask where the media get their categorizations from, both those that are explicit in the vocabulary, and those that are implicit in how people or things figure in process types'. This question is important because there is always a set of different choices available in the elaboration of new information. The vocabulary that the reporter selects will provide pre-constructed categories that help text-receivers to organize the event around a particular frame (Fairclough, 1995). For Van Dijk (1998: 188) the arrangements in newsmaking are biased to reproduce a limited array of dominant ideologies. Semantic meanings, along with lexical choices, are based on personal opinion and for that reason are susceptible to dependence on ideological perspective (Van Dijk, 2000). In fact, media texts are versions of reality dependent on the interests of those who produce them (Fairclough, 1995: 103-4).

The media bridges the connection between the social sphere of shared knowledge and the personal experience of the private scene (Fairclough, 1995). As argued before, a concept is stored in our mind by way of a mental process that involves neuronal

activation; however, since for each simulation different types of context might emerge, one can find diverse kinds of scenarios for the same simulation. Contexts are partially selected, because during the process of contextualization and framing, some perceptions are activated and some are left out (Barsalou, 1999). The type of context in which new events are presented can bias perceptual simulation. From the social to the private level many of the features that are related to the public sphere will become embedded in the personal conceptual structure of the text-receivers' mental frames.[22] By making specific choices the journalist is narrowing down the perspective of the newsreaders to one that is aligned with the institutional voice of the newspaper.[23] Text-consumers might not be aware of the fact that conceptualization is determined by ideology, since it is normally hidden and goes unnoticed in most of the cases. Goatly (2007: 27) observes that:

> The influence of language upon our thought and perception of reality is most powerful when we are unaware of it, when it expresses hidden or, technically speaking, latent ideology. We may be aware of alternative ways of conceptualizing reality because (1) we speak a second language or (2) are sufficiently alert to notice the choices made within the language we speak. But, if not, the texts we encounter may seem the only natural way of representing experience. This mind-set is known as naturalization.

A closer look at discourse is necessary to see what aspects of ideological manipulation and persuasion are implicit in texts and to what extent the way discourse presents reality can modify the text-receiver's capacity to interpret the world.

[22] Lakoff (1993) names this process 'entrenchment'.
[23] We need to consider news bias here as an aspect that can totally change the shape of a news article.

3.3.1. Studies of Media Texts

Hitherto it has been observed how social channels—or discourses—provide contextual framing for any new event that happens within society. Discourse mediates our interpretation of the world and media discourse in particular is among the most powerful discourses perpetuating ideology and social attitude. In truth, a closer look at the mechanisms of media discourse will shed light upon aspects such as the exercise of power, manipulation and control within social groups. Moreover, the analysis of how discourse functions at the intersection of society and ideology will allow us to assess to what extent language can modify the way we think about and perceive the world.

This is not a new proposal. The primary concern of Critical Discourse Analysis (henceforth CDA) has been to critically explore the relationship between society and language for many years. Under the scope of CDA critical analysts examine the way language enacts ideology, identity and inequality through social texts.[24] The main claim in CDA is that language is a critical element in the reproduction of ideological assessments, becoming central to establishing social identity, and consequently, social discrimination (Hart, 2010: 13). As Hart (2010: 14) observes, the aim of CDA is to 'be able to bring to the surface for inspection otherwise clandestine properties of text and discourse and thus create a greater awareness and correct a widespread underestimation of the influence of language in shaping ideology and society'. CDA does ideological work that targets social problems, and considers discourse as a type of social action that establishes a relationship between society and culture (Fairclough and Wodak, 1997: 271).

[24] Some of the authors consulted here are Hart (2007, 2008, 2010, 2011), Van Dijk (2005, 2006, 2009, 2012), Wodak (1989, 1992), Chilton (1996, 2004), Chateris-Black (2004, 2005, 2006), Núñez-Perucha (2004, 2011). However, CDA is a vast field with many more scholars that I have not mentioned or used significantly in the present work. For that reason, I do not consider it necessary to include them in this brief list.

As previously mentioned, cognition is a key element within conceptualization; Van Dijk (1998, 2000) proposes the 'socio-cognitive model' because he believes that social cognition mediates textual and social structure. In CDA, text interpretation implies the construction of cognitive metarepresentations that stand for the linguistic representations in text (Hart, 2010: 16).

Discourse provides a way to organize our knowledge of the world, and since discourse is always mediated by powerful voices, it might favor or disfavor some sector of the population. Considering this approach, it appears logical to assume that our conceptual system and social memory are manipulable vis-à-vis ideological mechanisms. Representations and beliefs that appear natural, are in fact only naturalized (Hart, 2010: 123). Most of the social practices and discourses present a favoring/disfavoring perspective, and many CDA analysts focus their research on how discourse, particularly media discourse, discriminates against certain sectors of the population (Hart 2010:13). Van Dijk (2010: 63) affirms that CDA scholars are committed to social justice and equality and normally interested in the way media discourse reproduces the power abuse of one group over the others. CDA focuses its actions on combatting social inequality represented, transmitted and legitimized by powerful and institutionalized discourses. Wodak (1995: 204) writes that CDA studies 'opaque as well as transparent structural relationships of dominance, discrimination, power and control as manifested in language'.

The present work adheres to the view that CDA can also analyze features of belief formation within social contexts that are not discriminatory a priori (Van Dijk, 2010). If discourse provides the receiver with a mental model for interpreting the world, such subtle properties of knowledge organization can be called into question in order to

see the incongruences of the cultural models on which they are based. CDA should extend its socio-cognitive study to other fields within identity-formation that go unnoticed and that can be essential for the complete understanding of group behavior.

Moreover, Fairclough believes that the analysis of texts should not only be a matter of text-production, but also of interpretation and social function. Fairclough (1992) elaborates a methodological outline for CDA practice based on a three-dimensional approach that includes discourse-as-text, discourse-as-discursive-practice, and discourse-as-social-practice. Through this approach, CDA should attempt to present a complete explanation of discourse production, re-production and interpretation.

At the level of production and re-production Van Dijk (1988: 25) proposes an analysis that must be based on the textual and contextual dimension:

> Textual dimensions account for the structures of discourse at various levels of description. Contextual dimensions relate these structural descriptions to various properties of the context, such as cognitive processes and representations or sociocultural factors.

In addition, Van Dijk (1988: 27) outlines a structure based on local and global meaning in which the meaning of the whole text is determined by the local meaning of words and sentences. In this scenario, style is crucial to set a specific type of meaning. For Van Dijk (1988: 27), style is the result of the speakers' choices among the different variations that discourse offers to express the same meaning. Moreover, style indicates, according to Van Dijk, the important role of context and situation. Similarly, the use of Rhetoric is not an indication of a different meaning but of a different orientation (Van Dijk, 1988: 27).

With his model of local and global meaning, Van Dijk (1998, 2000) delineates the relationship between the conceptual and linguistic level. In fact, it has already been established that cognition is a relevant part of the study of discourse, ideology and society.

Many authors have been working in the field with interesting results, leading to an increase in the use of Cognitive Linguistics as an instrument for CDA.[25] Assuming that ideology is an array of different mental representations established in our conceptual system (Van Dijk, 1998; Fairclough, 1998); Cognitive Linguistics, which is concerned with the structure of language at the conceptual level, could contribute to the study of ideological discourse in different modes. Hart (2010: 24) argues that:

> We can distinguish between conceptual organization and conceptualization. Conceptual organization refers to 'offline' systems of conceptual knowledge stored as cognitive models such as cognitive models such as frames, schemata and conceptual metaphors. Social cognitions, discourses, ideologies or member resources may take the form of such cognitive models as described in Cognitive Linguistics.

There is a parallelism between language, conceptualization, and cognitive models on the one hand, and text, discourse, and discourses on the other. For Hart (2010: 24-25), conceptualization is essential to understanding linguistic representations in relation to text and ideologies. In order to understand discourse, the text-receiver has to construct—even in a fragmented way—a mental model (Van Dijk 1998: 250). For the purpose of understanding and meaning-formation, different source domains are necessary to understand the diverse aspects of target concepts (Kövecses 2002: 84).

In the intersection between the nature of knowledge and the representation of it in the human mind, cognition emerges as an appealing topic that can be applied within CDA to solve the numerous problems that arise when trying to present a holistic approach to the mind, society and ideology. The area of Conceptual Metaphor Theory is where CDA has found more ground for the application of Cognitive Linguistics theories; many authors

[25] Indeed, recently some authors have adopted such as Chilton, Chateris-Black, Hart, Marín-Arrese, Núñez-Perucha, Lukes, O'Halloran a new multidisciplinary perspective. This new approach makes Cognitive Linguistics suitable to be adopted and used within the scope of language, society, and discourse in many different innovative ways.

have focused on the study of metaphors in texts to see their cognitive aspects (Chateris-Black, 2004; Chilton, 1994, 1996; Goatly, 2007). Over the years, the dominance of this approach has produced extensive literature on the topic. Different ideas regarding the study of metaphor have appeared (cf. section 1.2.1. above), creating a solid theoretical background where Critical Discourse Analysts have found sufficient ground to develop their theories. The key aspect of metaphor theory is that there is a turning point when these metaphors that structure our knowledge—whatever type of packaging they present––are used for ideological purposes to generate a specific interpretation of an event. In this context, the role of media discourse is undeniably important. Within the scope of media discourse and ideology, we need to take into account the influence and power that metaphor displays. Metaphors are applied pervasively in political discourse in order to promote persuasive communication of undercovered ideology (Hart, 2010: 128). Consequently, media discourse, which follows the patterns of the prevailing political discourse, will also make use of metaphor in such a way. However, if we are supporting Van Dijk's claim regarding the macrostructure and microstructure of texts, an accurate approach will devote attention to conceptual metaphors arising not only at the global level of interpretation but also at the local level.

Most of the CDA approaches have, so far, ignored the interpretation stage (Attia, 2007: 83). However, Hart (2010: 23) focuses on the relevance of the interpretative stage to provide an accurate perspective within CDA that includes a cognitive approach accounting for the construction of meaning at both ends of the discursive process. Hart's

goal is to see how certain conceptual strategies used in discourse affect the way events are conceived by the receiver.[26]

Hart (2010) proposes the use of Evolutionary Psychology along with Cognitive Linguistics to shed light on a theory of discourse interpretation. As a multidisciplinary field that explains behavioral and cognitive features evolved in response to natural selection, Evolutionary Psychology can be useful for the study of the interpretative stage within CDA. Gangestad observes that there are two different types of evolutions that affect behavior: genetic evolution and cultural evolution (2010: 83).[27] Following this perspective, Hart observes that Evolutionary Psychology can provide a framework to explain how distortion and deception operate in discourse (Hart, 2010: 20-21). Evolutionary Psychology proposed the existence of different social modules that evolve as a response to selection pressure, the physical world, and the social environment. Within those modules, CDA has found ground for the explanation of certain discursive strategies (Hart, 2010: 21).

Most human interaction is founded on cooperative principles—which a priori presuppose the altruistic properties of communication (Hart, 2010: 39).[28] Text-producers would not have been willing to share valuable information unless doing so served long-term purposes (Hart, 2010: 42). Discourse is, in fact, a cooperative action that takes place between the producer and the consumer with the ultimate goal of engendering cooperation for future goals (Hart, 2010: 40). However, despite the altruistic nature of communication,

[26] In a recent publication edited by Christopher Hart (2011), authors such as Attia, Koller, Lukes, Marín Arrese, and Núñez-Perucha present a new perspective for the use of Cognitive Linguistics within CDA.
[27] This new branch in psychology advocates for an approach that links Evolutionary and Cultural Psychology (Norenzayan, Schaller & Heine, 2010).
[28] Grice presented these cooperative principles as the four conversational maxims: quality, quantity, relation and manner (1975).

it can also give rise to Machiavellian uses of language, as language is susceptible to exploitation through strategic discourse (Hart, 2010:43). [29] Communication for manipulation, as a strategy that can be used for survival purposes, is evolutionary as well; in fact, communication, cooperation, interpretation and, consequently, manipulation are part of the same evolutionary process (Hart, 2010: 43).

Machiavellian language allows the producer to affect the receiver's attitude and knowledge of the world (Sperber, 2001; Hart, 2010).[30] As Sperber (2001: 404) notes, to make others behave in our interests we need to cause them to accept our message as true. Humans have an exceptional ability to distort and deceive. The final goal of such communication is to influence the receiver's attitude to the text-producer's benefit.

Chilton (2004: 45) considers coercion essential for the activation of the threat and fear modules in the text-receiver. Coercion is normally used by political discourse 'in setting agendas, selecting topics in conversation, positioning the self and others in specific relationships, making assumptions about realities that hearer are obliged to at least temporarily accept in order to process the text or talk'. It is important to note that according to Evolutionary Psychology, cultural value systems have deep implications for how members of the group behave, feel and think (Schaller and Murray, 2010: 251). Hart (2010: 64), actually, distinguishes between cognitive coercion that leads to the alteration of mental representations apprehended by an individual, the text consumer; and emotive coercion, the activation of emotion programs in answer to certain representations. In

[29] Hart defines 'Machiavellian intelligence' as 'the behavior of one individual which is intended to cause a belief in another individual which, it is expected, will lead them to act in a way which serves the interest of the first individual' (2010: 21)

[30] The notion of logico-rhetorical module was found in Sperber (2000, 2001), later applied to CDA by Chilton (2005), and developed by Hart (2010) who associated it with Machiavellian discourse.

order to achieve emotive coercion, there are different types of strategies associating out-group members with threat-connoting cues (Hart, 2010: 67).

By means of a set of construal operations chosen carefully by the producer—and that are always constructed under the influence of certain motivations—the receiver will interpret a particular scene following the ideological parameters established by the producer. The whole process of emotive activation is based on the selection of a particular language to define a situation:

> The notion of 'construal' refers to the fact that the same situation or event is potentially conceptualized in any number of different ways but alternative language structures necessarily encode some particular conceptualization, which is prompted in text-consumers. (Hart, 2011: 173)

As Hart (2010: 53) argues, 'certain mental representations constructed during discourse can trigger emotion programmes'. Hart (2010) distinguishes three different types of strategies—referential, predication, and proximitation—by which discourse can facilitate the orientation of the receivers' behavior towards a particular position within social issues. The idea of tribal membership is fundamental in the understanding of Hart's motivations. In the Era of Evolutionary Adaptedness (henceforth EEA), belonging to a group was synonymous to survival in a hostile environment. Reinforcing the notion of membership is crucial to perpetuating the interests of the community. Referential strategies, in this context, appear to be the cornerstone for the construction and preservation of group identity. These referential devices are based on the dichotomy of in-group versus out-group condition (Reisigl and Wodak, 2001; Hart, 2010). Individuals regarded as outsiders stimulate a type of threat reaction associated to emotional and cognitive responses that

characteristically motivate vigilant avoidance.[31] Social groups and community permitted individuals to deal with the physical world more adroitly, in terms of access to resources and avoidance of potential dangers (Hart, 2010: 50). In particular, I have included cases of predication because it is also a relevant strategy that frames people, actions, events or social phenomena in terms of quantity, quality, space and so on; moreover, predication employs syntactic, semantic and pragmatic elements to realize its cognitive function (Hart 2010: 66). Similarly, predication strategies make use of a set of schemes that qualify the ideological relationship in terms of a set of topoi that define the type of setting in which the person, action or event is going to be placed. In the present study, predication is associated with the conceptual organization of metaphorical structure. Predication, along with conceptual metaphorical representation, is used to generate a very specific type of conceptual organization and of nuclear ideology.

In the same vein, I consider proximization as an important element within this work. According to Cap (2013), proximization is a discursive strategy that accounts for the symbolic construal of relations between entities within the Discourse Space. Proximization projects distant entities as gradually approaching the speaker's territory. Normally, this construal operation involves legitimization of some sort of action or measure against the oncoming threat. Proximization is a powerful tool within political and manipulative discourses as it has the ability of creating symbolic shifts by mean of which peripheral elements within the Discourse Space are located in a more prominent and central position; providing closeness of an external threat, which in turn legitimates preventive measures. One of the most powerful form of proximization is the physical

[31] In fact, if fear has an evolutionary basis it is because it was a relevant function within human evolution (Schaller, Park & Faulkner, 2003:112).

representation of an approach threat, that is, an enemy on the move towards the speaker's territory.

Contemporary prejudices are, in part, the product of mental mechanisms that have evolved as adaptations that had the purposed of protecting early human beings against the threats of out-groups (Hart, 2010: 54). According to Evolutionary Psychology, there was an evolution in cognitive abilities to minimize threats. However, those modules that evolved to combat threats remain in modern cognition and are activated whenever similar associations—or simulations—take place (Hart, 2010: 62).

Evolutionary Psychology is associated with the concept of social cognition, and more precisely, with the main structure of ideologies.[32] Ideologies and their cognitive structures are crucial to unveiling how interpretation and ideological legitimation operate within a social scenario. Evolutionary conditions can make the receiver act according to the interests of the text-producer (Schaller & Murray, 2010; Hart, 2010). For Evans and Green (2006: 162) conceptualization is a process in which linguistic elements produce a particular array of conceptual operations that create conceptual knowledge. The way a group is ideologically organized is based on evolutionary principles essential for group-identity. Evolutionary Psychology and ideology thus both connect social knowledge and social experience. The evolution of a group is largely ideological and based on the definition of the self in contrast with the other (Sperber, 2001; Hart, 2010). More importantly, in a contemporary framework, the emotive responses appear to be working at the same level of efficiency as in EEA.

[32] According to Van Dijk (1996, 1997, 1998) the structure of ideologies comprises: Membership, Task, Goals, Norms and Values, and Position.

II. ANALYSIS, RESULTS, AND DISCUSSION

1. LINGUISTIC REPRESENTATIONS OF POWER, SUPREMACY AND CONFLICT IN THE BIRTH OF THE ATOMIC AGE (1945-1949)

Atomic bomb, Nagasaki.

"It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its power has been loosed against those who brought war to the Far East"
(Statement by the President, August 6, 1945)

1.1. Historical Background: The Birth of the Atomic Myth

The history of atomic energy came gradually into existence beginning in the 1930s. By 1939 the word fission had an aura of fantasy and wonder. Early accounts of this new energy source were set against the backdrop of a utopian paradise full of promises and eerie dreams. The expectations about the properties and potential of nuclear energy consisted in fantastic ideals built upon medieval superstition.[1] It was not until the beginning of World War II that the use of atomic energy would begin to become a reality. In 1940, two British scientists, Otto Frisch and Rudolf Peierls discovered Uranium-235.

In the years immediately following their discovery, however, most of the information regarding nuclear energy remained considered a war secret. Laypeople began hearing whispers of the new discoveries and their advantages during the final years of World War II. At this time, the first '*atomic race*' had begun and America was competing with Germany to harness the power of fission before the end of the war. Midway between secrecy and wonder, scientists started making progress that would culminate with the dropping of the first atomic bomb used against a civilian population on August 6th, 1945.[2] The beginning of *'The Atomic Age'* thenceforth marked the inauguration of a new era for mankind.[3]

Politicians, military leaders, and scientists were aware of the possibility for other powerful nations to develop nuclear power. Developing new atomic weaponry, progress in atomic research, and advancing along the road of atomic discoveries constituted an

[1] Spencer Weart (1988) provides an accurate account of these early years in that he calls 'Years of Fantasy' where there was a constant allusion to myths such as 'the Philosopher's Stone' or the 'Golden Age'.
[2] Two cities in Japan, Hiroshima first, and Nagasaki two days after were the two civilian targets in which Americans employed their first atomic bombs. The events took place in August 6th and 8th 1945.
[3] William L. Laurence, commissioned journalist writing for the *New York Times* and collaborating with the Manhattan Project, was the person who began to use profusely this new term. For a more detailed account of Laurence influence see Moreno Palmero (2009).

inherent part of the nuclear ideology of the early Atomic Age. In 1946, Operation Crossroads represented the starting signal for the new *technological* race, in which man had 'his first chance to comprehend in precise terms the cosmic force he ha[d] released' as *The New York Times* described on June 30th, 1946. Yet in order to foster the nuclear program, the American government needed to present it as a practical necessity for the welfare of the nation. In order to do so, authorities enacted a new ideological strategy: profiling Russia as a threat. This had the twofold effect of marginalizing increasingly hostile Russian economic policies and creating the competitor that would justify the coming arms race. As a result, public opinion assumed that a powerful nuclear program constituted the only possible way to maintain military supremacy. The atomic conflict thus began and Russia became embedded into the framework of America and the Western world as an archetypal nemesis.[4]

In a powerful speech delivered in Missouri on March 5th, 1946, British Prime Minister Winston Churchill set in stone the idea of the evil empire:

> From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent. Behind that line lie all the capitals of the ancient states of central and Eastern Europe. Warsaw, Berlin, Prague, Vienna, Budapest, Belgrade, Bucharest, and Sofia; all these famous cities and the populations around them lie in what I might call the Soviet sphere, and all are subject, in one form or another, not only to Soviet influence but to a very high and in some cases increasing measure of control from Moscow.

Indeed, during the immediate years after the end of WWII, Russia and the US had begun the process of mutual dissociation that would move them from their cordial post-war allied position into a terrain of unprecedented rivalry. On September 23rd, 1949, after

[4] By the end of WWII Russia was an ally that progressively became more and more detached from the Western perspective for the new economic policies proposed, mostly, by the US; these new measures implied a veering into a much more Capitalist objective that Russia was not willing to gratuitously accept (Craig and Radchenko, 2008).

years of speculation about the potential damage that Russia posed as an atomic enemy, President Truman announced the dropping of the first Russian Atomic bomb:

> We have evidence that within recent weeks an atomic explosion occurred in the U.S.S.R. […] this recent development emphasizes once again, if indeed such emphasis were needed, the necessity for that truly effective enforceable international control of atomic energy which this Government and the large majority of the members of the United Nations support. (President Truman, September 23, 1949)

This event marked the beginning of a new era in the story of the Atomic Age. Beyond the horizons of energy potential, there suddenly loomed the shadow of a terrible enemy with a destructive weapon, which swept away American dreams of indefinite supremacy and awesome power.

1.1.1. Newspapers and the first representations of the atomic energy

Anytime a significant event takes place within a society, influential institutions position their group members to perceive and comprehend it from a particular, and probably biased, perspective (Van Dijk, 2008). With respect to the atomic bomb, American ideologues had a clear goal: to create a precise understanding of the new phenomenon, so that instead of rejecting it as a dreadful device, people would embrace it with pride, enthusiasm, and reverence. Nonetheless, coding the right message was not a simple task, and in order to orient the members of the group toward that specific position, the American government needed a carefully constructed discourse. The media constituted the perfect vehicle with which to transmit the desired vision. As Franklin (1988: 156) argues:

> Few voices in the media questioned the wisdom of President Truman's decision to end World War II, though victory was already certain, by beginning the nuclear age. Instead, there was general acceptance of the official line that Japan had been defeated by the atomic bomb.

The bomb could be interpreted as something terrifying, true, but also as a magnificent work of man. One of the refrains for the justification of the atomic bombings was that while the bombs killed thousands of innocent people, they also put an end to the war. Newsmakers used a type of rhetoric that allowed text-readers to integrate the new element within the extant glossary of war and life.[5] William L. Laurence, as previously mentioned, was one of the most prominent figures to narrate stories of the bomb. Laurence's rhetorical styles clearly affected the way the atomic bomb was introduced to the public.[6] In fact, at that time, many of the articles regarding atomic energy published by *The New York Times* and *Los Angeles Times* were written or closely revised by Laurence. Reporters throughout the country mimicked his style, using tremendous amount of mystic imagery, as Jacobs (2010: 118) observes:

> This mystic, almost supernatural framing was the way most Americans first encountered the bomb, and it would remain their primary experience of it for many years. Truman and others employed divine rhetoric to describe the bomb: that it was given to the Unites States by God, that it liberated the elemental forces of nature that powered the sun, and that it ended the war.

Under the scope of this positive representation, euphoria occupied the American conscience for some stretch of time, and as Boyer (1985: 10) writes, 'nor could American business resist the bomb's commercial possibilities. Within days of the Hiroshima bombing, department stores were running 'atomic sales' and advertisers offering 'atomic results''.

Despite the initial splendor, the outcome of the bombings were overwhelming and terrifying: thousands of people died instantly, and many more after they were afflicted by

[5] See Boyer (1985) for a detailed description of this new situation.
[6] Further research regarding Laurence's language can be found in Moreno Palmero (2009), where a complete study of his early work describing the bomb is analyzed.

a *mysterious* disease. As Boyer (1985: 12) has noted, 'it would be wrong to conclude that Americans took the bomb casually or that its impact quickly faded. Just below the surface, powerful currents of anxiety and apprehension surged through the culture'. Citizens had yet to find a way to process the atomic information.

Reporters during this period went to great lengths to project a positive image of the bomb. The metaphorical notion of a new path open to exploration became a palliative for the adverse effect of atomic fears. Even so, a positive reading of the atomic event would not yet be sufficient to reign in the heightened general anxiety. Soon, the threat of a potential enemy and the fear of losing the atomic monopoly occupied the front page of newspapers. Indeed, thousand of articles were published dealing with the potential dangers of intelligence leaks. During the last years of this stage, the impossibility of indefinitely containing atomic secrets was a recurring theme of nuclear narratives.

Boyer, quoting the military analyst Handson W. Baldwin explains 'above all else, the atomic bomb raised "the question of power. The atomic scientists had to learn new ways to control it; so now does political man"' (1985: 9). Echoing the voices of politicians and the military in order to reinforce a conceptualization of a regulated event, the media relentlessly reiterated the notion of 'control,' eventually permeating public opinion and reigning in anxiety over atomic questions.

By the end of this period, newspapers had created a very distinct concept of atomic energy and its affairs wherein two blocks—America and Russia—fought over the quasi-mystical nuclear power.

1.2. Metaphorical Configuration of the Atomic Age

The mental image of atomic energy is not a simple one. It is complex, twisted and evolving as new elements are incorporated into an amalgamation of atomic comprehension. As Laurence wisely pointed out in one of his first articles about the bomb, atomic energy was a *living thing* in the process of sprouting new appendages, becoming more or less salient depending on the political tendencies of the moment.[7] During the period that goes from 1945 until 1949, when Russia detonated its first atomic bomb,[8] text-receivers witnessed the creation of a basic category of nuclear ideology. After analyzing a total of 265 lexical units in a corpus of 50 news articles, the findings show three main topics at the global level during this first stage: the atomic bomb, the new atomic era, and the potential conflict that will emerge in order to maintain exclusive use of this new resource. These elements worked at the macro level to frame thematically the context of lexical production at the micro level. They provide a global meaning fundamental to structuring the local level of semantic description. The following table shows the distribution of data regarding these three topics:

TOPIC AT THE GLOBAL LEVEL	***T: 265***	***%***
ATOMIC ENERGY	122	45%
NEW ATOMIC ERA	51	20%
CONFLICT US vs. THEM	92	35%

Table 1.1. Semantic macrostructures 1945-1949

[7] William L. Laurence described the bomb in such a way in a series of articles published in September 1945 by *The New York Times*.
[8] The detonation was on September 25th 1949.

While there are three main themes that rule the primary organization of the concept of atomic energy and its conflicts, this categorization is primarily focused on the definition of the atomic bomb. Lakoff and Johnson, (1999: 176) claim that an event—such as the Atomic Age—is conceptualized in terms of event structures where primary metaphors (states as containers or changes as movements) are at the foundation of the structural model. For them, 'it is both the inherent inferential structure of the skeleton and the rich inferential structure of the metaphors that jointly provide our enormously rich capacity for conceptualizing and reasoning about events'. Indeed, these authors follow the model proposed by Narayanan (1997) to claim that motor schemata follow an organization similar to event structure (Lakoff and Johnson, 1999: 176). Lakoff and Johnson (1999: 33) identify the following elements within an event schema: a trajector that moves; a source location or starting point; a route from the source to the goal (the trajectory); and the actual final location of the trajector (the goal). This schema can be metaphorically represented in many different shapes and at many discursive levels.

Certainly, observing the entire structure of nuclear ideology, one can claim that the Cold War is, in itself a motor schema. So far, this is the first stage in the atomic age and ideas and concepts are beginning to be organized around a set of values that can be regarded as the architectural foundation of its conceptual category and ideological orientation. Thus, according to Lakoff and Johnson (1999: 176), we could organize the meaning of the bomb and the atomic conflict in the following form:

MOTOR SCHEMA The origins of *the Atomic Age* 1945-1949	
THE INITIAL STAGE	The bombing of Hiroshima and Nagasaki
THE STARTING PROCESS	The Atomic Age, a new era
THE MAIN PROCESS	The development of atomic power. Conflict between Russia and The US
AN OPTION TO STOP	The dangers of the atomic conflict: international control
AN OPTION TO RESUME	Russia possessing nuclear power: atomic armament race

Table 1.2. The Atomic Age as a motor schema 1945-1949

It is important to understand the connection between the conceptual level in which a new category is being built and the textual level in which linguistic items are employed to describe it. During this first stage, the salient elements which are going to scaffold the atomic category are the object of this new categorization: the creation of atomic energy, the fact that this is a milestone in history, and the possession of atomic energy as a source of conflict. The schema is rather simple. Indeed, based on the idea of possession as an indicator of freedom; which is a very important element within American culture, as Lakoff (2006: 26) observes:

> In America, democracy is usually seen as the form of government that maximizes freedom through its institutions: free elections, free press, civil liberties, free markets, civilian control of the military, freedom of religion, and checks and balances on the powers of the branches of government. A free society is one in which such 'basic freedoms' are guaranteed by the state.

The ability to achieve purposes is pervasive and essential in the conceptualization of freedom. Thus, FREEDOM IS ACHIEVEMENT is a central metaphorical structure within the American belief system (Lakoff, 1996: 28). Similarly, the way achieving purposes is generally metaphorically understood is based on three embodied metaphors: reaching a destination, getting some *desired* object, or performing some action (Lakoff, 2006: 29).

These three metaphorical representations are part of a schema associated with movement and control.

The data demonstrate a consistent relationship between the abstract concept of freedom and the development of atomic energy. To begin with, the atomic bomb is considered the 'desired object'. In fact, the analysis shows that at the beginning, media discourse assured that the atomic bomb projected a positive image, halfway between myth and the world of natural forces. This interpretation is mainly based on conceptual metaphors such as ATOMIC BOMB IS A *COSMIC* FORCE or ATOMIC BOMB IS PROMETHEAN FIRE, conceptualizations that facilitated the emergence of a feeling of pride for the achievement of atomic power. The topic of the atomic energy, mostly in reference to the atomic bombs, accounted for a high percentage of lexical units in the texts (45%). Within the samples related to the atomic energy, I have found a constant tendency to use certain lexical metaphors, such as *to harness, to tame* or *atomic secrets* and *cosmic force*, to define the topic at the local level (72 cases); however, other discursive strategies such as predication, as in the case of lexical items that reinforced the power of the bomb as in *tremendous power* or the presentation of the atomic bomb as *celestial*, were employed to organize the conceptual model of atomic energy at this early stage. This constitutes evidence for the importance, not only of lexical metaphors in a text, but also of strategies that might evoke metaphorical thinking and that should be regarded as equally important in the conceptualization of new events.

As an extension, the detonation of atomic bombs opened up, so to speak, a new era that would also be represented with a profusion of very basic metaphorical thinking (20%) such as: ATOMIC RESEARCH IS A NEW PATH in which movement and achievement are

crucial and undeniably associated to freedom. At this point, lexical metaphors such as *to enter a new era* in which the CONTAINER metaphor is explicit or *to choose the right path* were echoing the desire of powerful institutions to emphasize a global metaphorical interpretation of this period: ACHIEVING PURPOSES (i.e. ACHIEVING ATOMIC POWER) IS REACHING A DESIRED DESTINATION (by moving through the new atomic path). Further, after a few years of atomic glory, fear of losing atomic supremacy, and consequently freedom, was established as a decisive element in the re-structuring of nuclear ideology towards the realm of conflict and confrontation. Truly, American institutions feared the loss of the monopoly—or the loss of the desired object; Russia, which was also trying to achieve nuclear power, was regarded as an evil entity prepared *to steal atomic secrets from the American house*. A high percentage of the metaphors represented a conflict with Russia (35%).

In sum, atomic energy, atomic era, and atomic conflict are the main global topics in the articles analyzed. These three main topics can be split up into more specific subdivisions of conceptual representation that might be image-schemas, conceptual schemas or cultural schemas facilitating the organization of meaning. These conceptual representations are carried out by means of different discursive strategies at the local level such as lexical metaphors, predication, referential strategies or proximization. The following table shows the main taxonomy of the diverse ways in which the three topics are represented both conceptually and at the level of local meaning:

GLOBAL TOPIC	CONCEPTUAL STRUCTURE[9]	LINGUISTIC REPRESENTATION
Atomic Energy	FORCE	Atomic energy is a force: *The most terrible destructive force ever harnessed by man*
	MYTH	Atomic energy is magic: *To release the magic power of the atom and bend it to the uses of man*
	PERSONIFICATION	Atomic energy is a living thing: *The atomic "baby" had emitted its first lusty cry*
	MORALITY	Atomic energy is well-being: *The end of human suffering, he declares.*
Atomic Era	JOURNEY	Atomic era is a journey: *The human intellect is carrying humanity with it along new roads*
	PERSONIFICATION	Atomic era is a living thing: *He had witnessed the birth of a new age*
	CONTAINER	Atomic era is a container: *We have entered upon a new era in the history of mankind*
	COMPETITION	Atomic era is a competition between scientists: *The prize to be won is prosperity and world leadership.*
Conflict	CONTAINER	The Soviet Union is represented as penetrating: *Russian efforts to penetrate atomic were successful*
	FORCE DYNAMIC	The relationship between the US and Russia is confrontation: *We can expect immunity from such an attack*
	LINK	Taking control of another self is taking another's possession: *We regard atomic energy as a force for peace by handing its control over to a civilian agency*

Table 1.3. Conceptual representation of the global topics at the local level (1945-1949)

[9] At the level of conceptual structures I have found different types of schemata that operate as organizers of conceptual meaning in different ways. From image-schema conceptual metaphors to cultural schemas, all operate towards the constitution of a conceptual framework that will become the essential constituent of the ideological structure of the nuclear category.

1.2.1. Defining Atomic Energy and Atomic Bombs

As we have seen, as this new concept was formed, it required a precise definition within the parameters of the established ideological perspective. According to Wills (2010: 22), 'the great seal of the United States was to be redesigned three weeks after Hiroshima, and President Truman suggested that lighting bolts be substituted for the arrows in the eagle's claw, as a symbol of the Bomb's sudden and obliterate might'. The change never occurred, however, this symbolism of mighty power turned out to be an essential part of the iconography of the Bomb. A clever combination of awe, heroism, power, and myth became the basic components of the mental image of the *'first fire ever made on earth that did not have its origin in the sun'* (Laurence, Sep 26, 1945 *The New York Times*).

The organization of the discursive strategies implemented to define atomic energy is grouped into diverse conceptual structures, such as image-schema and cultural schemas, from which metaphorical thinking emerged. These are the conceptual structure embedded in the mental representation of atomic energy at this time:

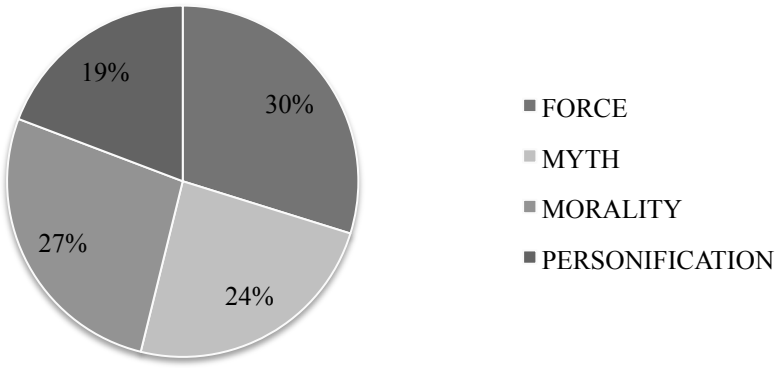


Figure 1.2. Main distribution of conceptual structures for the topic 'atomic energy'

The Atomic Bomb is a Cosmic or Natural Force

Assembled together, the array of different pieces creates a sophisticated image of the atomic bomb. Elements of the natural world combined with the idea of manmade creation and myth to reinforce an optimistic approach to the production and utilization of atomic power for war purposes. During this first stage, media frequently employed basic metaphorical conceptualizations related to the natural order and outer space. This naturalization is also associated with the idea of an unexplored wilderness, providing a halo of mystery and awe paramount to the establishment of reverence and respect. The bomb is also frequently lexically qualified in terms of its 'cosmic' properties:

(1) Last man to inspect the cosmic bomb was Bainbridge (8/7/45, CT)

(2) What is this terrible new weapon, which the War Department also called the 'Cosmic Bomb'? It is the harnessing of the energy of the atom, which is the basic power of the universe (8/7/45, NYT)

This type of lexical selection not only serves as a predication strategy but also presupposes the conceptual metaphor THE ATOMIC BOMB IS A COSMIC FORCE. Indeed, in some cases, there are lexical metaphors in the texts that indicate the employment of source domains such as COSMIC FORCE or COSMIC FIRE:

(1) Man will have his first chance to comprehend in precise terms the cosmic force he has released (6/30/46, NYT)

(2) As I watched the pillar of cosmic fire from the sky deck of this ship it was about eighteen miles to the northeast (7/1/46, NYT)

(3) For it was on that day, Dec. 2, 1942 at the gloomy squash court underneath the west stands of Stagg Field on the University of Chicago campus, that man succeeded at last in operating an atomic furnace, the energy of which came from the vast cosmic reservoir supplying the sun and the stars with their radiant heat and the nucleus of the atoms of which the material universe Is constituted (12/1/46, NYT)

The bomb is mainly conceptualized as power, force, and fire of cosmic origin in these examples. Whether by means of lexical selection or metaphors, perceiving the atomic bomb as a cosmic force is a powerful image that plays, at this point, a critical role of positive representation. In fact, cosmic can be defined as 'of or belonging to the universe considered as an ordered system or totality; relating to the sum or universal system of things. Also, universal; infinite; immense'.[10] With the use of the cosmos as a source domain, the atomic bomb is mapped onto a superior order that elevates its status from deadly weapon to celestial element. Furthermore, implied in the cosmic is the idea of vastness, which facilitates the association of the new element with a sense of magnitude endowing it with power and deference, because 'in most cases vastness and power are highly correlated' (Keltner and Haidt, 2010: 303). Yet the most compelling inference from the employment of this source domain is the fact that in American culture, as in most Western cultures, the sky and cosmos are intrinsically associated to God.[11] In fact, the corpus shows that there are numerous examples where the atomic bomb is defined in terms of its solar features. Vis-à-vis a direct association with the sun, the conceptual domain COSMIC FORCE is not only established and reinforced but also linked with a notion of an almighty power:

[10] http://www.oed.com/view/Entry/42216?redirectedFrom=cosmic#eid (Last time accessed 23/10/2013)
[11] Symbolically, the cosmos is associated to heaven, an 'almost universal symbol expressing the belief in a celestial divine being, who created the universe and guarantees the fecundity of the earth […] Heaven is the universal symbol of superhuman powers'. (Chevalier and Gheerbrant, 1996:484-485) (Last accessed 23/10/2014)

(1) It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its powers has been loosed against those who brought war to the Far East (8/7/45, WP)

(2) Physicists and scientists working in half a dozen American universities including the University of Chicago, have harnessed the power of the sun and sealed it into the "atom bomb" which President Truman announced yesterday has fallen for the first time in Japan with the force of 20.000 tons of TNT (8/7/45, CT)

(3) We can now go directly to the same sources that maintain the eternal fires of the sun itself (8/24/45, LAT)

(4) The atom power plants obtain their energy from the same source as provides the energy for the sun itself, the transformation of nuclear matter into energy (7/27/46,L)

All these examples have to do with force, energy, or the power of the sun. Even though there is not a metaphorical mapping per se—as they are mostly lexical selections—there is an indirect connection between the analogy *atomic energy is like solar energy* and the conceptual metaphor THE ATOMIC BOMB IS COSMIC ENERGY or more specifically THE ATOMIC BOMB IS SOLAR ENERGY. This strategy proves effective in creating a notion of power based on its inexhaustibility. The category additionally includes the idea of the supernatural. In fact, the sun is related to a primitive essential fire, as Kövecses (2002: 19) points out:

> The domain of fire is related to that of heat. In addition to using fire to keep ourselves warm, we also use fire to cook, to destroy things, etc. This source domain is especially common in the metaphorical conceptualization of passions and desires, such as rage, love, hate, and some others.

The sun is a source of life: by associating the atomic bomb with the sun as a fountain of life the deadliness of the atomic bomb is displaced. At the lexical level, these examples do not contain metaphorical representation as such. However, the fact that the sun belongs to the domain of the cosmos creates a metaphorical tension at the conceptual level that places the atomic bomb in the same category.

Additional connotations can be inferred from the use of the frame SUN in connection to the idea of powerful light. The notion of light here is remarkably positive, if we agree with what Charteris-Black (2011: 71) observes:

> Light and dark metaphors are very common in Christian religious discourse and link light, faith, goodness and Jesus […] in this respect, within Christian discourse, 'light' carries a positive evaluation as being prototypically good while 'dark' carries the negative one of being prototypically bad.

In fact, metaphors of light 'are rooted in an established conceptual key SEEING IS UNDERSTANDING. It is also likely that spiritual notions will be evoked because light is also linked with hope—which is an important notion of religious discourse' (Chateris-Black, 2004: 100). American ideology is known for its religious overtones (Chilton, 2004). In fact, within a mythological context, the sun is a god-like element.[12]

The effect achieved with conceptual metaphors such as THE ATOMIC BOMB IS A COSMIC FORCE, then, is dual. These conceptualizations create a sense of awe, presenting the atomic bomb as vast, ineffable and extremely powerful. Still, given the association to god, light, and life, they put forth a positive, almost spiritual, reading of the atom bomb.

Numerous metaphors also qualify the atomic bomb as a natural force, presenting a process not of deification but of naturalization, as in the case of the conceptual metaphor ATOMIC ENERGY IS A FORCE:

[12] Myths related to the Sun are very common in Western culture. As the most salient example we have the figure of Apollo, the mighty God of the Sun in Greek mythology (Ovid, *Metamorphosis*). In fact, according to Biedermann (1992: 330) 'countless religions associate a sky god with the sun, and there are countless names that designate this sun god as the destroyer of DARKNESS […] in Christian iconography the sun, rising over and over again in the East symbolizes immortality and resurrection'. American culture has religions as a cornerstone of its cultural beliefs making the employment of these types of images particularly powerful.

(1) The most terrible destructive force ever harnessed by man (8/7/45, LAT)

(2) Everyone felt a profound new responsibility to help in guiding into the right channels the tremendous forces which had been unlocked for the first time in history (8/7/45, WP)

(3) The White House and War Department announced today that an atomic bomb, possessing more power than 20,000 tons of TNT, a destructive force equal to the load of 2,000 B-29's and more than 2,000 times the blast power of what previously was the world's most devastating bomb, had been dropped on Japan (8/7/45, NYT)

(4) If there is anything the world needs today it is a reawakening of its consciousness to the fact that the atomic bomb is the greatest cataclysmic force ever released on earth that unless all the nations of the world agree to an effective means of international control it must lead inevitably to the destruction of civilization (11/28/48, NYT)

Interestingly, the type of predication used to define 'atomic force'—*destructive, tremendous, cataclysmic*—does not conceal its destructiveness. In many cases, destruction is assumed to be an inherent part of a natural force. As Johnson points out (1987: 43), forces have a certain degree of intensity; journalists' deliberate emphasis of the bomb's tremendous power magnifies its status as uncontrolled. While the use of this metaphorical conceptualization highlights the impossibility of human interaction with atomic force (Johnson, 1987), it also qualifies American scientists as powerful demigods capable of wielding its tremendous might. The emergence of the atomic concept intertwines mythical and divine elements with elements from the natural domain.

The dual image of the atomic bomb as source of both life and death is further strengthened by its characterization as a volcano. In fact, a volcano spouting molten lava is the vivid image of an incontrollable force that creates life and death in an even fashion:

(1) The new-born mountain in the distance, a giant among pigmies against the background of Sierra Oscuro Range, stood leaning at an angle against the clouds, a vibrant volcano spouting fire to the sky (9/26/45, NYT)

(2) Fiery 'Super Volcano' Awes Observer of 3 Atom Tests (7/1/46, NYT)

(3) The mushrooms of steam and dust from the bottom of the sea may surpass that of Krakatoa in the year 1883 (6/11/46, WP)

(4) It was an awesome, spine-chilling spectacle; a boiling, angry, super volcano struggling toward the sky, belching enormous masses of iridescent flames and smoke and giant rings of rainbow, at times giving the appearance of a monster tugging at the earth in an effort to lift it and hurl it into space (7/1/46, NYT)

In these examples a different types of lexical metaphors, metaphorical entailments and metonyms are used to portray an image of the atomic bomb linking the world of natural forces with that of destruction and disasters. Volcanoes, rain, or water—while natural—are simultaneously overpowering. The bomb's destructive potential is minimized by means of conceptual metaphors based on a higher structural frame: ATOMIC BOMB IS A *NATURAL* FORCE. The features of natural phenomena are here fundamental to a more positive, naturalistic envisioning of the bomb.

At a different level of naturalization, the mental frame FORCE can be employed to qualify a living thing, since force is defined as 'physical strength, might, or vigor, as an attribute of living beings'.[13] In fact, this aspect of the meaning of FORCE connects with the personification, extensively used at this time, ATOMIC BOMB IS A LIVING THING, as in the following examples:

[13] http://www.oed.com/search?searchType=dictionary&q=force&_searchBtn=Search (Last time accessed 23/10/2013)

(1) The most terrible destructive force ever harnessed by man (8/7/45, LAT)

(2) The United States formally offered yesterday to give up its store of atomic bombs and turn over all the secrets of harnessing atomic energy for peaceful means to an international Atomic Development Authority in which no nation could wield a veto power (6/15/46, NYT)

(3) A-BOMB 'TAMED'; HINT WAY EASED TO ATOM POWER (8/30/47, CT)

(4) TAMING THE SPLIT ATOM (8/31/47, NYT)

These examples have in common words generally used to describe the subjugation of wild animals, stressing the fact that atomic force has to be controlled or tamed by scientists. These interconnections create an awesome picture that is a blend of two different domains, FORCE and WILD ANIMAL. Actually, the concept of *'harnessing atomic energy'* is very powerful because as Chateris-Black (2004: 53) notes:

> We know that horses are harnessed so that they may be controlled by a rider who is sitting on their back. We may infer that social progress requires that the object of harness is conceptualized as being in need of control […] as having a type of raw energy that requires control.

In this context, the 'domestication' of the atomic bomb projects a sense of its acceptance.[14] In addition, by presenting the A-bomb as a wild animal susceptible to being tamed, journalists avoided a type of definition related to an inanimate and unnatural element.

[14] Brown (1988) alleges that during these years there is a process of 'domestication of the bomb' that is just a reflection of a strong intention to portrait a banal interpretation of it. In the same guise, Schiappa (2010: 253) claims that such as domestication is used as 'a rhetorical strategy by which nuclear concepts are introduced into public discourse in a non-threatening manner'.

The Atomic Bomb and the Promethean Myth

Newspapers also pictured the atomic bomb as a manmade product. As Lakoff and Johnson (1980: 72) observe, simple instances of making an object are all special cases of direct causation. However, in the case of manmade objects, manipulation transforms the object. Indeed this direct causation can be extended into general metaphors such as CREATION IS BIRTH. This opens a paradoxical controversy in which American scientists are able to create life. Lakoff and Johnson (1980: 72) state that the experience of birth provides ground for the concept of creation, which having the concept of making as its core, extends into abstract entities. In this scenario, metaphors such as THE ATOMIC BOMB IS A NEWBORN BABY provide a solid foundation for the framing of the atomic bomb as an American scion:

(1) It was almost full grown at birth, it was a great new force to be used for good or for evil (8/7/45, CT)

(2) Atomic bombs and their horrifying offspring are not being produced (10/9/45, LAT)

(3) It must be remembered that the atom bomb is in its infancy (10/28/45, WP)

(4) The atomic "baby" had emitted its first lusty cry (12/1/46, NYT)

Personification is a very fundamental metaphor at this primary level of conceptualization. 'The use of personification carries a strong expressive force because it evokes our feelings and beliefs about people and applies them to feelings and beliefs about abstract political issues' (Chateris-Black, 2011: 205). The basic meaning of birth links the process of being born with the beginning of a new period. In this instance of direct metaphor, the contextual frame is CREATING IS GIVING BIRTH, which conflates the model of the American mother and her child with that of the American father and his

artificial offspring.[15] In fact, the texts analyzed show that the source domain CREATION appears in numerous examples. The idea of the scientist creating a living thing has been part of Western Culture for a long time. Just like recent icons, such as Shelley's *Frankenstein* to Fritz Lang's false Maria, these myths connect science and the conception of life, equating scientists with fathers, gods, or heroes.[16] The following examples fall into that category, and while they are not metaphorical expressions, they reverberate the idea of creation of life:

(1) No man-made phenomenon of such tremendous power has ever occurred before (WP, 8/7/45)

(2) The man-made element that destroyed Nagasaki (NYT, 12/1/46)

(3) The process utilizes an element not existing in nature-man-made plutonium-and a power plant only a small fraction of the size required when natural uranium and slow neutrons are employed (NYT, 8/31/47)

Although in these examples the idea of manpower is central, they nonetheless suggest the struggle of modern man to attain divine power and a tendency emerges to mythify the creation of this new supernatural force. Indeed, on many occasions the lexical selection makes allusion to creation of fire as part of Promethean myth:

[15] According to Biedermann (1996: 126-127), 'as a symbolic figure, the father—primarily, it seems, because our society is a patriarchy—stand for supreme authority and even divinity'.

[16] Shelley's short novel *Frankenstein*, which is subtitled 'The Modern Prometheus' was published in 1818 and is based on the story of a scientist who wants to create a living thing. Fritz Lang was a German filmmaker that in 1927 directed *Metropolis*, a much more politically loaded work that also presents the idea of the scientist capable of supplanting life by means of the creation of a human-like robot. For an account on Prometheus' myth see Hansen (2005) and the Aeschylus' play *Prometheus Bound*. In terms of what the figure of Prometheus symbolizes, according to Chevalier and Gheerbrant (1996: 773):

> The meaning of Prometheus' name, Forethought, makes clear the meaning of the myth. As a descendant of the Titans, the spirit of revolt was innate within him; however, he symbolizes not a revolt of the senses, but that of the spirit, the spirit which, if it cannot make itself the equal of the divine intellect, at least tries to steal a few sparks of its light. This is not a quest of the spirit for its own shake, along the path of gradual self-spiritualization, but the sue of the spirit for purposes of self-gratification.

(1) The development is of Promethean significance. Generations millenniums hence may look back upon these years when atomic energy was first put to work in the same spirit in which we now think if the less well documented occasion when man first learned the use of fire (NYT, 8/12/45)

(2) At that-great moment in history, ranking with the moment in the long ago when man first put fire to work for him and started on his march to civilization. The vast energy locked within the hearts of the atoms of matter was released for the first time in a burst of flame such as had never before been seen on this planet, illuminating earth and sky for a brief span that seemed eternal with the light of many super-suns (9/26/45, NYT)

(3) The elemental flame, first fire ever made on earth that did not have its origin in the sun, came from the explosion of the first atomic bomb (9/26/45, NYT)

(4) TOMORROW will be the first official birthday anniversary of the atomic age, commemorating that fateful December day when man lighted the first atomic fire on this planet, the first fire that did not have its origin in the sun (12/1/46, NYT)

This representation are not metaphorical, however they place the American scientist in the role of a new Prometheus—as the creator of fire, thus implying that atomic fire is the new hope for a better civilization. However, there are other occasions when the atomic bomb is denoted by means of metonymy—the part for the whole—that evoke the conceptualization ATOMIC BOMB IS (PROMETHEAN) FIRE given the implications of the contextualization of the creation of atomic bombs:

(1) There must be something that extinguishes cosmic fire (8/12/45, WP)

(2) TOMORROW will be the first official birthday anniversary of the atomic age, commemorating that fateful December day when man lighted the first atomic fire on this planet, the first fire that did not have its origin in the sun (12/1/46, NYT)

(3) They had many instruments aboard and they would let us much about what is goes on in that boiling mass of atomic fire (7/1/46, NYT)

(4) As I watched the pillar of cosmic fire from the skydeck of this ship it was about eighteen miles to the northeast (7/1/46, NYT)

The primary meaning of fire per se is transcended by the culturally shared element of myth, which in turn depends upon the receiver's familiarity with story of Prometheus and its significance within Western culture (Hansen, 2005). Associated variably with pain,

power, life and creation,[17] the mastery of fire represents supremacy over the animal kingdom and the natural world at large. Journalists' use of the metaphor ATOMIC BOMB IS (PROMETHEAN) FIRE mythologizes the potency of both the bomb and the American "titans" responsible for its creation.

All these cases are located within the paradigm of myth, 'a traditional story, typically involving supernatural beings or forces, which embodies and provides an explanation, aetiology, or justification for something such as the early history of a society, a religious belief or ritual, or a natural phenomenon'.[18] Framing the event within the domain of myth is essential because:

> Myth engages the hearer through a narrative that embodies a set of beliefs expressing aspects of the unconscious. It provides a narrative-based representation of intangible but evocative experiences that are unconsciously linked to emotions such as sadness, happiness and fear. (Chateris-Black, 2009:100)

Different conceptual domains emerge to support the mythologizing of the atomic bomb. The general metaphorical frame is ATOMIC ENERGY IS SUPERNATURAL is clearly demonstrated in the following examples:

[17] Biedermann (1996: 129) describes fire as follow: 'the apparently living ELEMENT, which consumes, warms, and illuminates, but can also bring pain and death, has conflicting symbolic associations […] fire is the only one of the 'elements' that humans can produce themselves; it thus symbolizes the similarity of mortal and gods'.

[18] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/124670?rskey=XZuGx1&result=1&isAdvanced=false#eid (Last time accessed 23/10/2013)

(1) But the greatest marvel is not the size of the enterprise, its secrecy, nor its cost, but the achievement of scientific brains in putting together infinitely complex pieces of knowledge held by many men in different fields of science into a workable plan (8/7/45, WP)

(2) He held out no hope to the allies, however that Japan can be bombed into submission with the celestial energy torn from the atom (8/7/45, CT)

(3) Mr. Truman's announcement gave a dramatic recital of this first realization of the dreams of the scientists to release the magic power of the atom and bend it to the uses of man (8/7/45, CT)

(4) This meant that while the cyclotron led to the discovery of uranium's miraculous qualities it Is not necessary to haul around any gigantic cyclotrons to ignite it in warfare or in peace (NYT)

While these metaphors are not lexical, the contextual meaning surrounding them reveals a metaphorical tension firmly planted within a source domain of magic and wonder. According to the *Oxford English Dictionary*, supernatural can be defined as: 'belonging to a realm or system that transcends nature, as that of divine, magical, or ghostly beings; attributed to or thought to reveal some force beyond scientific understanding or the laws of nature; occult, paranormal'.[19] Portrayed in this way, atomic energy is accepted by the reader as inscrutable yet equally worthy of admiration and respect. Such qualities imbue atomic energy with a mystery that allows for the limitless expansion of its promise:

[19] http://www.oed.com.ezpprod1.hul.harvard.edu/view/Entry/194422?redirectedFrom=supernatural#eid (Last time accessed 23/10/2013)

(1) Atomic fission, said Stimson, holds great promise for sweeping development by which our civilization might be enriched when peace comes (8/7/45, CT)

(2) Atomic fission holds great promise for sweeping development by which our civilization may be enriched when peace comes, but the overriding necessities of war have precluded the full exploration of peacetime applications of this new knowledge, Mr. Stimson said. (8/7/45, WP)

(3) April 10-Glimpses or a new promised land of chemistry in which atomic energy will be used to transform the world we live in by creating new elements at will (4/11/46, NYT)

(4) Mr. Truman, in his statement accompanying the report, said the commission reports "that recent experiments hold out the promise of more efficient production on the farm and in the factory and of an increase of mechanical and human energy for doing the world's work."

ATOMIC ENERGY IS A PROMISE is an instance of cultural metaphor with specifically American inflections. Within an American context, more universal associations to the biblical Promised Land give way—as example (3) shows—to the promise of the American Dream. What begins to emerge in these examples is the beginning of one of the most essential features of American atomic energy: its status as moral instrument.

Atomic energy is a moral instrument

Ideas of self-determination, hard work, and the pursuit of happiness and freedom are fundamental to American identity.[20] Within the domain of atomic creation, too, struggle is central to reinforcing the power of the American man. The status of struggle as physical contest is linked with the protestant ethic of hard work as a route to salvation (Weber, 1905). In fact, according to Kövecses (2005: 175), morality in American discourse can be conceptualized as MORALITY IS STRENGTH, 'a moral person would apply a counterforce in an effort to overcome the force of evil and would be successful in overcoming it. Thus, in this view, moral 'strength' is based on the notion of physical

[20] This idea is portrayed in the American constitution as a primary source; to get a complete insight of the American Constitution, which is known as 'The Charters of Freedom', visit the website http://www.archives.gov/exhibits/charters/

strength'. In the same vein, Lakoff and Johnson (1999: 291) observe this relationship between strength to achieve tangible goals and moral strength to confront and overcome evil. Effort and struggle is often presented in the texts, and must be interpreted under the scope of basic American ideological cornerstones such as freedom and predetermination:

(1) The recent use of the atomic bomb over Japan, which was today made known by the President, is the culmination of years of herculean effort on the part of science and industry working in cooperation with the military authorities (8/7/45, WP)

(2) The President said that the successful effort to harness the power of the universe required 2 billion dollars and three years work (8/7/45, WP)

(3) The greatest of the results of this intense activity seems to be found in the fact that man through great efforts has finally succeeded in reaching the deepest knowledge of the laws regarding the formation and disintegration of the atom and in this manner to dominate in an experimental manner and up to a certain grade the unleashing of the powerful energy which emanated in many of these processes. The Pope said (2/9/48, NYT)

(4) President Truman said today that he has ordered every effort to keep this country's "leading position" in the atomic field (6/25/48, CT)

The domains of EFFORT and ACHIEVEMENT are both fundamental to the conception of freedom and power. In these instances, by virtue of enduring struggle, American scientists attain righteousness. Indeed, 'the notion of *everyday* heroes shows that part of the myth-making power of metaphor is to transform everyday individuals into heroic icons' (Chateris-Black, 2011:220). Metaphorical emphasis on scientists' struggle thus imbues them with moral rectitude. The accumulation of metaphors we have seen up to this point thus establishes the idea that a) SCIENTISTS ARE GODS and, based on the moral aspect of their sacrifices, b) SCIENTISTS ARE GOOD GODS.

Scientists are good for America because their struggle is rewarded with the achievement of power, which enhances American well-being, an intrinsic cornerstone of atomic ideology. In this case, the metaphorical implication of the lexical selection leads to a conceptualization based upon the idea of moral power. The power of the bomb, while

tremendous, and terrible, is a source of pride in this contextualization in which power denoted as tremendous:

(1) President Truman said the new bomb, which draws its energy from the same sources as the sun, has more power than 20,000 tons of TNT: itself a tremendously powerful explosion itself (8/7/45, LAT)

(2) A massive cloud was formed which surged and billowed upward with tremendous power, (8/7/45, CT)

(3) No man-made phenomenon of such tremendous power has ever occurred before" (8/7/45, WP)

(4) Tremendous power of the blast (9/12/45, NYT)

These examples, in which American scientists are portrayed with the ability to control a *tremendous* power, demonstrate what Johnson calls *enablement*: 'if you choose to focus on your acts of manipulation and movement, you can become aware of a felt sense of power (or lack of power) to perform some action' (1987: 47). The containing frame is grounded within a commonly used conceptual metaphor, POWER IS CONTROL (Lakoff and Johnson, 1987), an idea which would be used to quiet the unease of those that feared a loss of the American monopoly on atomic production. Besides, the collocation tremendous power can have a bidirectional interpretation; for it can be seen as something 'dreadful, horrible, and astonishing terrible,'[21] or as something 'extremely good'.[22] In the same guise, the fact that power is modified by the adjective tremendous can be also seen as a hyperbole that emphasizes the magnitude of the atomic might.

Indeed, the hyperbolic representation of atomic power is constantly accentuated. There are numerous examples based on predication strategies of quantity that, while not

[21] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/205497?redirectedFrom=tremendous#eid (Last time accessed 23/10/2013)

[22] http://www.macmillandictionary.com/dictionary/british/tremendous (Last time accessed 23/10/2013)

metaphorical but referential, contributed to the consolidation of the conceptualization of the atomic bomb as power:

(1) There are 2.500 billion atoms in 8 grams of U-235 and 453.72 grams in a pound, each split of one atom releases 200 million volts of atomic binding energy (8/7/45, CT)

(2) The announcement heralded an Anglo-American victory at a cost of $2,000,000,000 In one of the grimmest battles of the war-the battle of the laboratories to unlock the secret of the atom and yoke its energies to military use (LAT, 8/7/45)

(3) The White House and War Department announced today that an atomic bomb, possessing more power than 20,000 tons of TNT, a destructive force equal to the load of 2,000 B-29's and more than 2,000 times the blast power of what previously was the world's most devastating bomb, had been dropped on Japan (8/7/45, NYT)

(4) Shneiderov computed the force necessary to crack the earth's outer shell, about 40 miles deep, into two halves, 3 meters apart. The force is a fantastic figure, in work units (ergs) where 1 is followed by 28 zeros. But he says the force of the atomic bomb is an almost equally fantastic figure, only 2 zeros shorter (6/11/46, WP)

This quantitative conceptualization constructs a positive representation of the atomic bomb. In fact, the cultural meaning underlying the basics of embodied experience allows the text-reader to conceive of a more elaborate schema. On a deeper level MORE connects with virtue and morality, 'upward motion corresponds to an increase in virtue and merit which could be summarized as VIRTUE = UP' (Trim, 2011: 136). Implied in the numerical enormity with which the bomb is depicted, this sense of virtue facilitates the positive evaluation of atomic energy.

If quantity suggests a direct metaphorical relation to morality, the boundless potential for positive future promise also helped to delineate atomic energy in terms of moral righteousness. The altruism implicit in the following examples connects with the domain of WELL-BEING as it implies an improvement in the quality of life:

(1) Until we have such control we will never dare to release atomic energy for the peaceful uses which might raise standards of living among the peoples of the world to the point where they would have no interest in the siren song of soviet propaganda (1/28/47, CT)

(2) The end of human suffering, he declares. If we are permitted to live at all, there is no reason we cannot expect to live as long as Methuselah (12/1/47, LAT)

(3) Now we can begin to hope that men's toil can be lightened, which is the same as saying that their living standards can be raised (8/31/47, NYT)

(4) [Isotopes] promising the greatest benefits to man (7/25/48, NYT)

Lakoff and Johnson (1999: 291) state that 'morality is fundamentally seen as the enhancing of well-being, especially of the others.' In the examples presented above, improvements upon standards of living—just a predication strategy—implies wealth, which can be interpreted as moral strength that would facilitate the confrontation with and defeat of evil (Lakoff and Johnson, 1999: 291). In occasions, the moral battle is represented in an explicit manner:

(1) The battle of the laboratories held fateful risks for us as well as the battle on the air, land and sea and we have now won the battle of the laboratories as we have won the others battles (8/7/45, WP)

(2) The admirable conquest of the human intellect, which taxes and investigates the laws of nature is carrying humanity with it along new roads (2/9/48, NYT)

(3) The great epics of modern times (11/28/48, NYT)

By means of representations based on myth, the natural world, and morality the media found a way to positively explain the destructive power of the A-bomb (Chateris-Black, 2009: 101). In the media's use of these source domains the atomic bomb emerged as a complex mythical entity. Certainly, the type of lexical items analyzed in this section show how newspapers tried to mitigate the most negative aspects of nuclear energy and emphasize its more constructive elements. The emergent conceptual map of the atomic

bomb was based on representations that characterized it as a predominantly benevolent invention.

1.2.2. Journey Metaphors and the birth of the Atomic Age

In his book Dawn Over Zero (1946), Laurence writes:

> During the course of my journey I discovered that in less than three years our scientists and engineers, backed by our great industries, had built an *Atomland-on-Mars*, a scientific Never-Never Land, where the accepted 'impossibilities' of yesterday had become actualities of staggering dimensions, in both time and space.

Indeed, the path schema represented by this quotation was used in the majority of the examples analyzed in this study. Metaphors adhering to this schema tend toward one of two possible forms: either an exclusive track (as in the Laurence quote) or a shared one in which the US and Russia competed for atomic supremacy. Once the sought-after destination was reached, the container schema also comes into play, for (drawing from the above example) the allegorical *Atomland-on-Mars* must now be entered. The following chart illustrates the ratios of the different schemata found in relation to the topic of the *Atomic Era*:

Figure 1.2. Distribution of conceptual structures for 'atomic journey'

Central to the temporally inflected notion of an 'atomic era', then, is the spatially delineated metaphor ATOMIC ERA IS AN ADVENTURE. Far from a mundane journey, however, this atomic path was often defined in terms of its mythical qualities. Based on our physical experience of the world, conceptual metaphors such as MEANS ARE PATHS or LONG-TERM PURPOSES ARE JOURNEYS (Kövecses, 2010) depict atomic research in terms of embodied movement toward a destination. In addition, a cultural framework associates this journey with an adventure in which American scientists were described as the all-knowing wizards of the promised *Atomland.* This culturally shared schema defined the Atomic Age as a part of the manifest destiny of territorial expansion and moral freedom (Pratt, 1927).[23]

In the period following the bombing of Hiroshima and Nagasaki, the textual association of birth with the atomic bomb was relatively frequent. Indeed, the data show numerous examples in which the BIRTH metaphor is utilized to represent the atomic age. Representing the new age as a new life, this framing indirectly personified the A-bombs as a living thing:

[23] Operation Crossroad, for example was celebrated with great fanfare, as the image shows. At any rate a source of pride for American people who saw in the atomic advances a promising future. This is a famous picture of the event:

Operation Crossroad

(1) Farrell added that everyone present felt that he had witnessed the birth of a new age-"the age of atomic energy" (8/7/45, WP)

(2) The birth of a new age-the atomic age announced tonight by the war department in a graphic description of the test of America's new "secret weapon," the atomic bomb, In the desertlands of New Mexico (8/7/45, CT)

(3) This historic ground in New Mexico, scene of the first atomic explosion on earth and cradle of a new era in civilization (9/12/45, NYT)

(4) We are indeed privileged to be alive and to witness the birth of this new epoch in man's progress (8/24/45, LAT)

Notice that all the examples imply a conceptualization in which the new era is a living thing; however, example (3) employs metonymic features of the 'birth scenario', that is 'cradle', standing for birth, what evokes the BIRTH metaphor.

While birth is the central metaphor in these examples, implicit is the structure of the metaphor LIFE IS A JOURNEY, the beginning of life the start of a journey. A new era entails the beginning of something momentous, remarkable or exceptional. It is, in other words, a complete paradigm shift. Kövecses observes that 'a common conception of history is that it is a change from a period of ignorance and oppression to a period of knowledge and freedom. This is based on the metaphor that HISTORICAL CHANGE IS MOVEMENT FROM A STATE OF IGNORANCE TO A STATE OF KNOWLEDGE' (2005: 172). There are numerous examples that define this new world order as a 'new age' or simply 'atomic age'. The use of these types of constructions allowed text-producers to introduce a context of interpretation that paralleled this age with ancient mythological ages, such as the golden age.[24] More interestingly, these collocations were frequently accompanied by verbs that imply the CONTAINER metaphor, such as "to enter", or "to usher":

[24] William L. Laurence is, indeed, one of the first calling it the new Golden age. The Greeks considered the Golden Age as one of the four stages in the ages of men. Ovid's *Metamorphoses* present a detailed account of the different ages of men. For Biedermann (1996: 155) golden age is 'a symbol frequently encountered in the history of idea, referring to a past, often prehistoric epoch of greater wisdom and greater proximity to

(1) The fact that we can release atomic energy ushers in a new era in man's understanding of nature's forces (8/7/45, WP)

(2) Mankind's successful transition into a new age, the atomic age, was ushered in July 16, 1945 (8/7/45, CT)

(3) For better or for worse we have entered upon a new era in the history of mankind (8/12/45, NYT)

(4) We entered a new era—the Atomic Age (8/12/45, NYT)

Or more clearly, "to open":

(1) This sensational disclosure was made in a report on the opening of the "age of atomic energy,'" when the first United States atomic bomb was exploded on a remote section of the New Mexico desert on July 16, 1945 (8/7/45, WP)

(2) Great Field Opens (10/28/45, WP)

(3) Atomic energy, he writes, makes all our conceptions of daily living obsolete, eradicates virtually all our limitations, cures all our maladies and opens the door to a way of life uncomplicated as that of a South Seas native (12/1/47, LAT)

(4) The door of knowledge is barely opened (1/11/48, NYT)

Verbs such as the ones in these examples evoke a metaphorical tension that implies a change in the order of mankind characterized by penetration into a new physical domain: the Atomic Era. In the reproduction of this conceptual structure both metaphors of MOVEMENT and CONTAINER participated. In fact, the HOUSE METAPHOR, a more culturally profiled extension of the CONTAINER schema, appears in numerous occasions referring to the new era:

(1) Stimson acknowledged that "we are at the threshold of a new industrial art which will take many years and much expenditure of money to develop" (8/7/45, NYT)

(2) We are at the threshold of a new industrial art which will take many years and much expenditure of money to develop (8/7/45, CT)

(3) Man on Threshold of Industrial Use of Atomic Energy, Says Lawrence (7/27/46, LAT)

(4) We are truly on the threshold of a new era of limitless energy reserves (7/27/46, LAT)

God. The myths of the submerged island of Atlantis and of the loss of Paradise have a similar basis: the conviction that in earlier times humanity had immediate access to the sources of knowledge but that they were sealed off by human wrongdoing'.

Through the idea of the threshold, the concept of the house was applied to structure the image of the atomic research as that of a building. In conceptual metaphor theory, 'building is taken to be an archetypical creative activity and therefore symbolizes human endeavor and there is clear evidence that the underlying conceptual metaphors are WORTHWHILE ACTIVITY IS BUILDING and SOCIETY IS A BUILDING' (Chateris-Black, 2004:73). Under this perspective crafted carefully by the media, the new atomic era was the new temple of knowledge accessible only to a restricted group of American scientists. An interesting definition of the symbolism of temple is provided by Biedermann (1996: 339) for whom the word temple:

> Goes back to the same root as the Greek *temenos,* 'secluded realm', referring to the space for worship, sealed off by walls from the secular world. Symbolically, however, these walls, although they are to protect the shrine against desecration and outsiders against the extraordinary power contained within, are also to be movable, so that the holy realm within can be extended as far as possible.

Based on the well-established CONTAINER metaphor (Lakoff and Johnson, 1985), this type of conceptualization includes complex elements that organized the Atomic Age within more sophisticated parameters. Because the atomic bomb had been previously depicted as a divine object, it can be assumed that the atomic era was a holy realm containing such as extraordinary power.

Further, as stated before, the whole structure of the Atomic Age was based upon a motor schema constructed over the conviction that achieving atomic freedom is moving along a new atomic road. This interpretation can be grounded on the basic idea of force and how an external—metaphorical—force, perhaps divine providence, pushed mankind along a new path (Johnson, 1987: 45). Indeed, according to Chilton (1996: 195), 'force is

associated with motion along a path. In Newtonian fashion, the movement is unstoppable unless there is an equal counterforce'. The notion of constant movement ahead—taking new paths, opening new doors—is a social construct of the United States, which had been historically obsessed with the idea of expansion to conquer new territories (Kövecses, 2005). In fact, the conception of ATOMIC RESEARCH IS A JOURNEY prevailed during this period. As Chateris-Black argues 'notions of everyday progress toward a goal are conveyed by metaphors from the domain of journeys, based, as we have seen, on a conceptual metaphor PURPOSEFUL ACTIVITY IS TRAVELLING ALONG A PATH TOWARD A DESTINATION' (2004: 90).

After setting the atomic age within a frame of mythological adventure, journalists had to make people believe that the atomic bomb was not a '*dead end*' as some voices had claimed (Boyer, 1985). The conception ATOMIC (RESEARCH) IS A NEW JOURNEY began to be used indistinctively for different purposes but with the same idea in mind: the atomic bomb opened up a new moral road of prosperity and promises for exclusively American use. The extensive presence of elements associated with the journey schema support this idea:

(1) Atomic power is just <u>one more step along the path</u> of technological progress, may be the supreme gift of physical science to the modern age (10/28/45, WP)

(2) We may <u>pave the way</u> to tapping the tremendous power of the atomic energy (8/30/47, CT)

(3) The forces, then, within the atom are not new. Far from it, what is new is this; that in our day, our generation, knowledge has so increased that we are now actually <u>on the long road</u> to understanding atomic energy and making it serve men's needs (1/11/48, NYT)

(4) The admirable conquest of the human intellect which taxes and investigates the laws of nature is carrying humanity with it <u>along new roads</u> (2/9/48, NYT)

In these cases, metaphorical entailments focus on describing the road itself, which stood for atomic research. Similarly, there are conceptualizations that highlight the fact that there are different roads that can lead to rather divergent ends:

(1) It will be the culmination of an elaborately contrived naval-military experiment known as Operation Crossroad (6/23/46, NYT)

(2) He also gave it a name: Operation Crossroad, because, as he said, the science of warfare–perhaps the future of civilization itself–is at the crossroads (6/23/46, NYT)

(3) The test bears the prophetic name "Operation Crossroads." and it may well be a crossroads for man himself as well as the arms he has devised (6/30/46, NYT)

(4) Today we stand at the crossroad, the destiny of the world will be decided probably in the next five years, probably in the next six or twelve months (7/1/46, NYT)

The crossroad is a recurrent element of the JOURNEY metaphor; as Feldman (2008: 208) observes, the 'crossroad is extended lexically by the submetaphor of the event structure of the event metaphor that Long-term purposes activities are journeys'. Conceptually, the travellers are faced with choices conceptualized as CROSSROADS along the path. Atomic research can offer a promising industrial future, but it also opens a door to conflict. In all the examples above, the lexical metaphor CROSSROAD necessitates a choice of the correct path—an implicitly moral choice. Once the right path has been taken, the conceptual metaphor PROGRESS IS MOTION FORWARD represents freedom and moral action:

(1) Everyone felt a profound new responsibility to help in guiding into the right channels the tremendous forces which had been unlocked for the first time in history (8/7/45, WP)

(2) The United Nations must go further than the mere outlawing, of the list of deadly weapons if it is to protect peace loving states against the use of such weapons by aggressor nations (11/30/46, LAT)

(3) How far these developments may go (6/2/47, LAT)

(4) The admirable conquest of the human intellect, which taxes and investigates the laws of nature, is carrying humanity with it along new roads. (2/9/48, NYT)

Conceptual metaphors such as REACHING A DESIRED DESTINATION IS ACHIEVING and CHOOSING THE RIGHT PATH IS MORALITY create a sense of rightness and freedom. Something that at this time was essential for the conceptualization of atomic energy as a good thing. Upon voices that disagreed regarding the well-intentioned used of atomic power, media discourse had the difficult tasks of reverting those beliefs into the institutional ones.

The Atomic Age is a Competition

While atomic power was initially the sole province of American scientists, soon the metaphor ATOMIC RESEARCH IS A NEW JOURNEY evolved into ATOMIC (RESEARCH) IS A COMPETITION, which conveyed rivalry and conflict between the potential managers of atomic power. Once other nations joined the US on the atomic path, the atomic race took off:

(1) Military Control of A-Bomb Called Signal for Arms Race (3/1/46, WP)

(2) Mr. Baruch's plan was a bold bid to outlaw atomic energy as a means of mass destruction and thus avert a mad armament race among the nations of the world (6/15/46, NYT)

Evoked by terminology drawn from the domain of the car race, excitement and tension grow to be the new ingredients of the atomic age. For Kövecses (2005: 184) the idea of the race is based on a more general conceptualization based on entertainment as the *motor* of American culture:

> It seems to me that one such foundational metaphor in American culture is LIFE IS A SHOW or SPECTACLE, or more generally, ENTERTAIMENT. I would consider the POLITICS IS SPORT metaphor that is so prevalent in America to be a specific instance of this more general foundation metaphor.

However, at this early stage American scientists did not have a real competitor and for that reason the image of the nuclear arms race does not materialize but is merely sketched

as a potential schema for use in the near future. Nonetheless, a natural implication of this model of competition represents American scientists as participants in a race that they are obliged to lead:

(1) If America were to lose the lead in this field, a few thousand dollars invested for research now, might be worth hundreds of millions in the future (8/12/45, WP)

(2) It is your job and mine to see that we do not lag behind any possible enemy either in nuclear physics or any other field of research and engineering of importance to the defense of the nation (7/27/46, LAT)

(3) There should be no letup in the drive to increase our atomic knowledge for defense and peaceful purposes (7/25/48, NYT)

(4) President Truman today said that he has ordered every effort to keep this country's 'leading position' in the atomic field (7/25/48, LAT)

In the context of the atomic competition metaphors such as SPEED IS SUCCESS became fundamental, because as Chateris-Black observes 'an arms race implies that the side that obtains either more or better arms will succeed by becoming more powerful' (2011: 147).

Nonetheless, an atomic race is still only a hypothesis, and rather than being represented as an active competitor, Russia constitutes simply an obstruction in the American journey:

(1) Russia, he said, is the stumbling block to progress toward such control (6/25/48, CT)

(2) President Truman declared today that the United States would hold fast to the atomic bomb and continue its efforts to make it more deadly while Russia persists in obstructing efforts for international control of atomic energy (7/25/48, NYT)

(3) However, the uncompromising refusal of the soviet union to participate in a workable control system has thus far obstructed progress (6/25/48, LAT)

(4) Russia, he said, is the stumbling block to progress toward such control (7/25/48, LAT)

The use of conceptual metaphors such as THE ATOMIC BOMB IS A FORCE and ATOMIC RESEARCH IS A NEW PATH are closely related to Johnson's observations (1987: 45) regarding the schemata of force structures, or image-schema of movement: 'in our attempts to interact forcefully with objects and persons in our environment, we often encounter obstacles that block or resist our force'. Considering the linguistic expression STUMBLING BLOCK Chateris-Black (2004: 160) states that 'obstructions are employed to convey a negative evaluation based on a PATH-DESTINATION schema in which something that hinders movement along a path is negatively evaluated'. While at this early stage American supremacy is incontrovertible, the structure of atomic discourse undergoes a drastic change from the optimistic beginning of the *golden* atomic age into a progressive darkening of the atomic scene. However, so far, the identification of Russia within this schema is passive rather than active since its entrance into the race is as an obstruction and not yet as a participant.

1.2.3. Freedom and Conflict Metaphors: the Stealing of the Bomb

Despite efforts to maintain the atomic monopoly, the days of American supremacy were numbered. As expected, soon foreign researchers *frequented* the atomic road. With this inevitable turn of events, the notion of confrontation and rivalry became essential to the definition of the atomic category. Based on the data so far, we can agree that from a model of *movement along a path* nuclear discourse moves, especially during the final years of this period, into a counterforce schema in which two rivals 'collide face-to-face' (Johnson, 1987: 46). From the adventure of exploring new roads to the divergence of eternal rivalry, the late years of this period marked the beginning of a new

conceptual model of atomic energy based on a force dynamic schema of opposing energies.

The atomic dispute is triggered by the fact that Russia might attempt to *steal* American atomic technology, a precious object contained in 'the sacred realm of the atomic research temple'. The resolution of this antagonistic situation focuses on containment of the intruders and prevention of their nuclear progress. Container, force dynamic and link image-schemata, along with a cultural schema of freedom convey this new ideological perspective. The following table depicts the distribution of data at the level of conceptual structure:

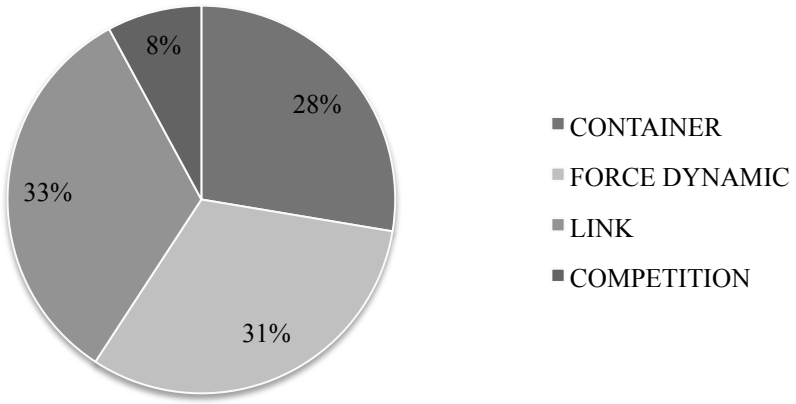


Figure 1.4. Distribution of conceptual structures representing atomic conflict

Atomic Information is a Secret Object: The Container Schema

Although at this time Russian mastery of atomic technology remained a mere hypothesis, Americans closely guarded their secrets in order to prevent their Soviet rivals from joining them on the atomic trail. Essential to this conceptualization was the coding

of 'atomic information' of scientific findings as secrets or mysteries.[25] Thus, the metaphor ATOMIC ENERGY IS A SECRET was employed to create a mythical vision of nuclear research. Underlying this complex configuration, however, was the metaphor NUCLEAR IDEAS ARE AMERICAN POSSESSIONS; which relates to the FREEDOM schema, and the possession of the desired object (Lakoff, 1996: 29). Indeed, American newspapers insisted repeatedly on the fact that Russians were '*stealing'* their secret ideas. This notion of possession and dispossession, as Grady (127) has claimed, is related to a very basic conception allowing us to metaphorically possess mental objects.

The far-reaching use of the metaphor ATOMIC ENERGY IS AN AMERICAN *SECRET* reinforces the model of legitimate ownership, which promotes the interpretation of atomic energy as freedom. Nonetheless, at the same time, this model is conceptually based on the CONTAINER schema, with an object contained in a restricted and inaccessible place (Johnson, 1987; Chilton, 1996), perhaps a temple. By means of metaphorical associations, the new energy is presented as one of America's most precious and secret properties:

[25] Without going any further, Prometheus stole secrets from the Gods so he could create mankind. Scientists for years tried to find the philosopher stone in order to unveil the secrets of the transmutation of gold. What is more, 'Prometheus was released from the claws of the vulture which devoured his liver, without Herakles having to risk the anger of the almighty God, by revealing to Zeus a secret entrusted to him by Temis. The fate of the gods hung upon this secret and this was Prometheus' weapon' (Chevalier and Gheerbrant, 1996: 841)

(1) Still thick secrecy shrouds much of the atomic bomb despite the intense excitement (8/7/45, LAT)

(2) The secret of the nucleus became known to man because nature betrayed It in the phenomenon of radioactivity (8/12/45, NYT)

(3) Four leading participants in the atomic bomb project, including Professor Glenn T. Seaborg of the University of California, co-discoverer of plutonium and of elements 95 and 96, lifted the curtain of secrecy somewhat and outlined some of the potentialities in the application of atomic energy for industrial, medicinal and other peacetime purposes (4/11/46, NYT)

(4) We cannot as a nation afford to disclose the secrets which make this new force the most deadly form of military weapon. (7/25/48, LAT)

A secret is 'something unknown or unrevealed or that is known only by initiation or revelation; a mystery; chiefly pl., the hidden affairs or workings (of God, Nature, Science, etc.)'.[26] Secrets are seen as objects, but of a very particular type: those that can be locked. According to Chilton (1996: 128):

> The house metaphor is a specific variant of CONTAINER, which provides a source domain for concepts of knowledge and concealment: since containers hide, and conceal, they contain secrets. Similarly, if your state is your house, what you do in it is private, and may be secret.

Knowledge in the possession of the atomic commission is coded within the complex metaphor ATOMIC INFORMATION IS A SECRET THAT ONLY THE US POSSESSES (IN THE AMERICAN HOUSE). At the basis of this framework, the metaphor ABSTRACT ENTITIES ARE BUILDINGS plays a fundamental role. Indeed newsmakers portrayed the handling of atomic information as a liquid leaking from a container, what reinforced even more that idea of container:

[26] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/174537?rskey=yVMGbP&result=1&isAdvanced=false#eid (Last time accessed 23/10/2013)

(1) Baruch was, said to have testified that the form of certain questions put by the Russians in United Nations discussion of international atomic controls indicated there, had been security leaks (2/14/47, CT)

(2) Groves appeared before the committee Friday but merely hinted to reporters afterwards that there might have been some leak of atomic secrets (9/12/48, WP)

(3) Some atomic scientists leaked information to the Russians (9/12/48, WP)

In order to make it even clearer, Russians are depicted as actual persons that will trespass inside the impervious American house, and steal the well-guarded atomic secret (Chilton, 1996):

(1) Bernard M. Baruch reportedly told senators today there is evidence that Russia has penetrated to some extend the secrecy wall this country has erected around atomic bomb production (2/14/47, CT)

(2) Russian efforts to penetrate atomic research safeguards were successful (9/12/48, WP)

(3) Russian efforts to penetrate atomic research safeguards were successful (9/12/48, CT)

(4) The officer was "deeply concerned over the intense activity of Russian espionage agents in the efforts to penetrate atomic research safeguards both before and during his association with the project" (9/12/48, CT)

National security is conceptualized in terms of the CONTAINER schema, emphasizing the impermeability of the bounding surfaces. Thus defense systems fear 'penetration' and 'infiltration' (Chilton, 1996: 63). If we consider the model AMERICA IS A HOUSE AND ATOMIC SECRETS ARE OBJECTS IN THAT HOUSE, Russia then becomes a prospective intruder into that private domain. In fact, the verb 'to penetrate' is defined as 'to get into or through, gain entrance or access to, esp. with force, effort, or difficulty; to pierce'.[27]

[27] http://www.oed.com/view/Entry/140088?redirectedFrom=penetrate#eid (Last time accessed 23/10/2013)

This metaphorical dynamic structure corresponds to a new interpretation of the atomic age. As Chilton (1996: 149) claims, 'it is important to the conceptual model constructed through the text that, despite its backwardness, Russia is represented as on the move'. The structure of this mental process is based on an overlapping of different source domains: the personification RUSSIA IS A LIVING ENTITY, the AMERICAN HOUSE, and the ATOMIC BOMB IS SECRET. Once Russia attempts to break into the American house, the conceptualization blends to generate a new metaphorical scene of THEFT in which ACCESSING ATOMIC BOMB RESEARCH IS STEALING:

(1) Congressional spy investigators said yesterday that an Army expert on atomic energy is "certain" Russian agents stole some wartime atom bomb secrets (9/12/48, WP)

(2) Atomic espionage inquiry had revealed that some atomic material had been stolen (9/26/48, WP)

(3) Scientists working with the super-secret Manhattan atomic bomb projects at the University of Chicago made attempts to steal atom secrets (9/26/48, WP)

(4) HEAR RED SPIES STOLE ATOMIC SECRETS IN WAR (9/12/48, CT)

According to Chilton (1996: 193), 'first, the Soviet Union is seen, metaphorically, as a person, with specific mental and physical attributes'; what is more, as Weart (2012: 67) observes, 'a new popular stereotype arose, the insidious Communist (or in the Soviet bloc, capitalist) traitor who endangered people through stealing secrets. That meant atomic secrets more often than every other kind put together'. Soon, not only the conception of illicit possession was employed to define Russia but also espionage activities incorporated into the conceptualization of Russia as a threat to American freedom:

(1) The officer was "deeply concerned over the intense activity of Russian espionage agents in the efforts to penetrate atomic research safeguards both before and during his association with the project" (9/12/48, CT)

(2) Soviet agents in a complete professional spy ring (9/26/48, WP)

(3) The official declared that Presidents Roosevelt, Truman and Attorney General Tom C. Clark "had all the facts" on a Russian spy ring that got atomic bomb secrets but did nothing about it (9/26/48, WP)

Espionage, within this context, relates to proximization and referential strategies in which Russia, by means of unorthodox strategies, appears on the move toward the achievement of atomic power. However, the fact that 'to spy' implies observation with hostile intent, opened up a new frame in which the relationships between the US and Russia were increasingly acrimonious.

The Confrontation between USA and Russia: Force Dynamic Schema

By the end of this stage the need for containment emerged. This concept will be extremely relevant in the process of meaning formation and identification of Russia within American nuclear ideology (Chilton, 1996: 153). Atomic affairs moved into a more belligerent position in which the new frame rested upon the conceptual metaphor POLITICS IS CONFLICT. American media had to create a very intimidating picture of the potential enemy. According to Hart (2010: 51) this is based on referential strategies employed to present a hostile image of the external threats posed by inter-groups. The schema implicit in this framing was based on a metaphorical force dynamic model in which Russia approaches the American house:

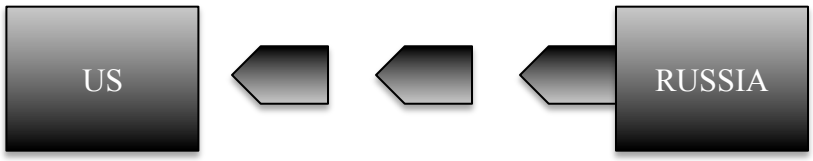


Figure 1.1. Dynamic structure of US-Russia atomic relationships 1945-1949

In terms of the qualification of the enemy, Russians are represented metonymically by their political ideology:

(1) The head Communist of my state (CT, 1/28/47)

(2) Reds Getting Atom Plant, Senator Fears, (WP, 1/28/47)

(3) Tabbed as a possible communist sympathizer (CT, 2/14/47)

(4) Would approved the appointment of a man friendly to the Communist cause (CT, 2/14/47)

The label 'Communist' and the other associated words such as 'red' or 'propaganda' should be understood as synonyms of evil, following the dichotomy good vs. evil based on referential strategies of dissimilation (Hart, 2010: 57). In this context, there is no possible way to obtain a positive interpretation of 'Communism' despise the fact that it merely characterizes a political doctrine. To understand why 'Communist' is essentially associated with evil, we need to go beyond the basic conceptual meaning and use the historical context to fully comprehend the ideological reasons underlying this association. Communism is defined as:

> A political doctrine or movement based on revolutionary Marxism, seeking the overthrow of capitalism through a proletarian revolution, the social ownership of the means of production, and the creation of a classless society. A system of government in which all economic and social activity is controlled by the state acting through the medium of a single authoritarian political party, with the purported aim of realizing the doctrines of revolutionary Marxism.[28]

[28] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/37325?redirectedFrom=communism#eid (Last time accessed 23/10/2013)

The demonization of Communism starts after World War II when the former allies begin to show discrepancies in their political perspectives.[29] It is, indeed, by virtue of different political discourses that the conceptualization *communism is evil* became an inherent part of American beliefs.[30] Chilton (1996: 144) argues that in order to fully understand the connotations implicit in the concept, text receivers need to decode the dichotomy that exists in Western discourse constructed upon opposites such as *savagery* vs. *civilization*, or *natural impulsiveness* vs. *scientific rationality*. In addition, Communism can be interpreted upon the basis of the concept of freedom since it involves an authoritarian political control that coerces individual freedom. This in turn elicits a dichotomy that also pertains to the Western discourse *slavery* vs. *freedom*. As on journalist of this period wrote, atomic energy 'brought the greatest war in history to a victorious end for both the free world of democracy and the slave world of communism' (12/1/52, *The New York Times*). Newspapers at this time profusely employed representations such as AMERICA IS FREEDOM, RUSSIA IS SLAVERY.[31]

Whether Russians, Communists, or simply reds, all represented a menace. The emerging threat of Russia to both freedom and nuclear development brought a new perspective into nuclear narratives. The number of articles dedicated to the Russian

[29] Craig and Radchenko (2008) present a detailed account of the reason for the demonization of Russia after World War II, based essentially on the discrepancy between the US and Russia in terms of economic policies.
[30] In the late 1940s and much more strongly during the 1950s, propagandistic posters against Communism were very common in the United States.
[31] Yarrow (2010: 19) points out: 'These themes of U.S. democracy opposing Communist "slavery" in the name of "freedom" were mirrored in the influential April 1950 explication of U.S. Cold War objectives, NSC 68'. Anti-Communist propaganda started to emerge during this period, particularly emphasizing the threat that Communism posed to the people's freedoms. One excellent example is the cartoon movie 'Make Mine Freedom' which was produced by the Extension Department of Harding College in 1948. The movie can be watched at the following link: http://www.youtube.com/watch?v=8D6d6_-Vngo

enemy increased with the years. While in 1945 and 1946 the topic appeared mostly anecdotally, by 1947 more and more articles focused on the enemy's progress in nuclear research. Indeed, the type of conceptualization of the new situation appears to follow the conceptual structure of freedom. Lakoff and Johnson (1999: 190) believe that any type of freedom is based on a more basic notion of freedom of action, which is conceptualized as an EVENT-STRUCTURE metaphor. In fact, according to these authors, action in this context is conceptualized as self-propelled movement and difficulties as elements that impede progress. Consequently, freedom of action is the absence of impediments to self-propelled movement. As Chilton (1996: 193) argues, 'the path schema enters into the conceptualization of Soviet power and into the conceptualization of future policies', first as a stumbling block, later as a race competitor.

There is a complex mechanism surrounding the loss of atomic supremacy, the appearance of a potential competitor, and the actual threat of the use of atomic power. Diverse discursive strategies work together in a blend that combines features from different frames to identify Russia as a danger to American freedom. Russia is depicted as outside the boundaries of the in-group and on the move, projecting a sense of an active, unstoppable enemy, a proximization strategy in which the immediacy of Russia is perceived as an imminent threat (Hart, 2010: 84):

(1) I believe Russia is planning to embark on a program of scientific research and development greater than that contemplated by any other nation (10/9/45, LAT)

(2) Destroy enemy atomic weapons before they reach our shores (6/29/46, LAT)

(3) Russian efforts to penetrate atomic research safeguards were successful (9/12/48, WP)

(4) A more likely explanation is that Kapitza is now busily at work behind the Urals constructing an atomic fission plant (1/28/47, WP)

The emerging conceptual schema presents a confrontation between the US and Russia that soon became central for the nuclear category. The media, indeed, represented that conflict in terms of the metaphor AMERICAN AND RUSSIAN RELATIONSHIP IS WAR in which Russia is willing to initiate an attack. These examples do not correspond with linguistic metaphors but they are indeed, constituents of a conceptual model that will prevail, understanding political relationships in terms of conflict:

(1) Decision Seen in 60 Days of Atom-Age War (6/2/47, LAT)

(2) We can expect immunity from such an attack because we alone possess the atomic bomb (6/2/47, LAT)

(3) Attack might come so swiftly (6/2/47, LAT)

(4) Atomic Warfare Peril Told By the Presidential Council (6/2/47, NYT)

However, the corpus for this period contains abundant linguistic metaphors directly related to the conceptual metaphor POLITICS IS WAR. The reason why they are so prevalent in texts of this stage is that 'conflict metaphors commonly have an important role in the evaluation of abstract social goals so that, for example, social ills can be conceptualized as 'enemies'' (Chateris-Black, 2004:69):

(1) Alaska's proximity to the Siberian mainland makes that territory a potential threat to our nation if allowed to remain undefended (6/29/46, LAT)

(2) It is your job and mine to see that we do not lag behind any possible enemy either in nuclear physics or any other field of research and engineering of importance to the defense of the nation (7/27/46, LAT)

(3) If we fail to get international control of atomic energy, the chances are very great that the time will come when another nation has sufficient nuclear fuel and know-how about bombs to constitute a military threat by this means to the United States (4/25/47, WP)

(4) Be interception of enemy attack and retaliation (6/2/47, LAT)

Implicit in the lexical selection, this schema belongs to the domain of hostility and armed conflict, which triggers the emergence of two opposed blocs. Churchill in his renowned speech of 1946, *the Sinews of Peace* made reference to an iconic and powerful image, the iron curtain, an axiom of the new political and ideological mood: a container model divided by an impenetrable curtain. Indeed, the association with the iron curtain that divided, metaphorically, West and East is based on a light-dark dichotomy; 'this iconic metaphor implies that Russia was allied with forces of darkness and also did not wish to be seen—since it has drawn the curtain' (Chateris-Black, 2011: 74). In this complex cluster, by a process of metonymic associations, atomic power reveals its deadlier face: from the '*power of the sun*' of US atomic energy to '*the danger of a destructive warfare*'. In this new scenario, metaphors such as ATOMIC ENERGY IS A DANGER FOR MANKIND are usually employed to create an atmosphere of fear and uncertainty, polarizing the features of atomic energy in a binary opposition of good and bad:

(1) We may assume that no effective antidote to this bomb is likely to be found. Even if it were found, we should not be sure that within a short time the antidote itself could not be neutralized and deprived of its salutary effect (1/13/46, NYT)

(2) The climate of the earth may be affected unfavorably for many decades if the quantity of dust erupted as a result of the experiment is several times that resulting from the explosion of Krakatoa (6/11/46, WP)

(3) The atom bomb is a sword of Damocles suspended by a thin thread (11/30/46, LAT)

These three examples provide different samples of common conceptualization of atomic dangers. While example (1) is based on a conceptualization in which NUCLEAR ENERGY IS ILLNESS; example (2) is more complex and entails not just a single lexical item but a compound of images that associate nuclear energy with a natural force capable of influencing world climates and example (3) with myth. Either way, illness, natural force, or myth consolidated a new trend in media discourse: to reinforce a negative model of the

atomic bomb. As Chateris-Black argues, 'in political speeches metaphors drawing on the source domain of light and darkness are frequently used as a way of offering evaluation through exploiting their potential for antithesis' (Chateris-Black, 2011:72). The profusion of more pessimistic vocabulary implies that Russia has corrupted nuclear energy, rendering it a threat for mankind. Russia itself is depicted as a menace to liberty. Chilton (1996: 193) explains:

> The policy of containment, in its various manifestations, involved not only the stick-and-carrot approach to curbing Soviet activities that were feared or disapproved of, it also involved an ambitious restructuring of geopolitical space. Fundamental to it was the acceptance of the belief in a Soviet threat.

There is a binary opposition between the former definition of atomic energy, presented at the beginning of this period in terms of wonders, and the new model of destruction. The following examples show the beginning of what would become the new atomic ideology, in which atomic energy is associated with destruction. The idea of STATES ARE BUILDINGS prevails here behind the literal meaning of these lexical items:

(1) Destruction or Utopia on Earth? Atomic Energy May Mean Difference, 12/1/47 Los Angeles Times (1/28/47, CT)

(2) Presidential commission drew back, the curtain today on atomic warfare of the future to hint at "the indescribable horror" of a single day's attack in which twelve of crippled or destroyed and our utilities, railroads and communication eliminated (6/2/47, LAT)

(3) Atom Is Force to Destroy—or Humanize Man, 10/28/45 Washington Post (10/9/45, LAT)

(4) The coming of war will be cataclysmic in its suddenness and its destructiveness (6/2/47, NYT)

The dichotomy of the *good bomb* versus the *bad bomb* relies on a metonymy: the US and Russia. Journalists attempt to generate a negative image of the enemy, as Chateris-Black (2011: 205) observes:

> Destruction metaphors employ verbs that entail some degree of sudden movement or force and will cause material damage over time. The purpose of such

> metaphors is invariably to convey a negative evaluation of a particular type of abstract social phenomenon or entity, such as crime, conflict, or an unnamed source of aggression.

Truly, a change of order in the Atomic Age was rapidly approaching. For that reason, the way in which newspapers depict atomic energy started to be redesigned according to the complexities of a new stage in atomic affairs. Before any threat existed, atomic energy belonged exclusively to American scientists. The United Stated had the atomic monopoly and, for that reason, no control was required. Now, in the scenario of an atomic war, a formidable enemy determined to achieve its own (evil) atomic power emerged.

Controlling is Securing: Link Schema

As Russia got closer in the atomic race, more and more emphasis was placed on the fact that only by means of control and containment could Americans maintain the dominant order. Possession and control are conceptually linked, as Lakoff and Johnson (1999: 272) observe: 'another major way of exercising control over an object is to hold on to it, to keep it in your possession'. Russia's imminent intention to develop nuclear energy represents an American loss of control. The metaphor TAKING CONTROL OF ANOTHER SELF IS TAKING ANOTHER'S POSSESSION (Lakoff and Johnson, 1999: 273) in which the US needed to recover control abounded in this late stage. Control means 'to exercise restraint or direction upon the free action of; to hold sway over, exercise power or authority over; to dominate, command', is the one that represent.[32] POWER IS CONTROL is a well-established metaphor (Lakoff and Johnson, 1980). Within this schema, based on a physical attack and movement, control symbolizes power to neutralize the enemy:

[32] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/40563?rskey=W8ALBm&result=2&isAdvanced=false#eid (Last time accessed 23/10/2013)

(1) We should now give notice to the world that we regard atomic energy as a force for peace by handing its control over to a civilian agency (3/1/46, WP)

(2) Assembly of the Six-Power resolution for control of atomic energy (1/14/46, WP)

(3) The State Department's committee on atomic energy tonight reported that peaceful, progressive control of this awful force must be given to an all-powerful international commission instead of a global police said seeking to handcuff its uses for war (3/29/46, LAT)

In fact, controlling Russia is part of the general schema of the US policy of containment. However, American institutions required a well measured strategy that did not reveal the actual purpose behind international control. In order to do so, nuclear discourse turns to the employment of a metaphorical image based on referential strategies of in-group and out-group boundaries to diffuse the strong presence of American government within the control apparatus (Hart, 2010). According to Chilton (1996: 132) the CONTAINER schema implies the existence of a boundary or perimeter that does not, indeed, need to be a geopolitical frontier based on physical territories. Instead, it can be a symbolic perimeter located where national interests want it. Thus, when newspapers and politicians started to claim that an international control should be established, the boundaries of the American container were pushed away to expand into an abstract, yet efficient, form of international domain.

Thus instead of placing the exercise of control upon American hands, journalists formulate a new image grounded in an *international apparatus*. It appears that it is not the United States who dominates the machinery—or gets the power—but an international 'body' the one in charge of handling atomic energy. The metaphor THE INTERNATIONAL SYSTEM IS A STATE (Chilton, 1996) is essential in order to understanding the idea of 'international control'. Now, this international body has become an active person within the CONFLICT and controls and contains the enemy:

(1) That policy called for immediate establishment of an international control with the authority to inspect atomic projects in all countries and to punish violators of the U.N. atomic regulations (1/28/47, LAT)

(2) President James B. Conant of Harvard University, associated with the atomic research since 1941, said today "I still cling to the belief that international control will eventually succeed (4/25/47, WP)

(3) To develop an international control system to prevent the diversion of materials (4/11/46, NYT)

(4) He urged that international control of the dreaded A-bomb be taken out of the hands of the United Nations Security Council and written into a global treaty which could be enforced promptly and forcefully without veto by any of the major powers (1/28/47, WP)

The international label becomes embedded within this sub-category as an extension of American *good* force. Nonetheless, international control happens to be just a metonym—whole for part—of the actual American control over the atomic machinery in the atomic race. As Johnson (1987: 118) posits, linking plays an essential role in the formation of unities and connections with a bonding structure. Metaphorically link schemata apply physical bonds to abstract entities. In the examples above that basic link schema traces a line of control by an international body over atomic energy. Literally, to put control in the hand of civilians:

(1) We should now give notice to the world that we regard atomic energy as a force for peace by handing its control over to a civilian agency (8/7/45, LAT)

(2) We should now give notice to the world that we regard atomic energy as a force for peace by handing its control over to a civilian agency (3/1/46, WP)

(3) He urged that international control of the dreaded A-bomb be taken out of the hands of the United Nations Security Council and written into a global treaty which could be enforced promptly and forcefully without veto by any of the major powers (1/28/47, LAT)

(4) That since a free society places the civil authority above the military power, the control of atomic energy properly belongs to civilian hands (7/25/48, WP)

By placing control in civilian hands, the conflict between the two nations becomes neutralized and the threats, at least temporarily, dismissed, because if Russians

happened to achieve atomic power it would mean the end of freedom and peace, and for that reason, Russia must be contained and controlled. Interestingly, this counterbalance of motion left America as the actual controller of the 'atomic monopoly'; however, by means of a well-drafted discourse this fact remained masked behind the concept of 'international control'.

1.3. From Text-Production to Text-Interpretation of the Atomic Age

During the first years of the Atomic Age, atomic energy began to be defined within the American mind. In this new category, a network of factors—the bomb, the US, Russia, a conflict, danger—clustered together in a radial structure providing nuclear energy with identity and social meaning (Johnson, 1987). Through the use of a particular type of language, text-producers deployed their intention of communicating a mental representation of the Atomic Age that was specific to the needs and purposes of American government. Linguistic representation of atomic questions presented a type of biased discourse that made text-receivers react in a particular way according to emotional cues strategically deployed by news media (Hart, 2010: 35).

What a priori could appear as altruist communication of information had, indeed, a manipulative effect: to make text-readers believe that the atomic bomb was a sort of precious object, of exclusive American origin, that needed to be protected. Definitions such as ATOMIC BOMB IS A COSMIC FORCE or ATOMIC BOMB IS A NATURAL FORCE influenced text-receivers to believe that the atomic bomb was, actually a good thing for American people. Polls show that this strategy actually worked; in September 19, 1945 (Gallup, 1972: 527) a survey asked citizens the following question: *"do you think that it was a good thing or a bad thing that the atomic bomb was developed?"* To that question, a 69% of the population answered 'it was a good thing'. In the same survey respondents were asked: *"do you think that atomic energy will be developed in the next ten years to supply power for industry and other things?"* In this case, a total of 47% of the population said yes.

The continuous allusions to the Promethean myth facilitated a positive reinterpretation of the darkest aspect of atomic energy. However, it also provided an immense sense of astonishment. As Prometheus, American scientists had stolen an awesome source of energy that could be used equally for good or bad. Evolutionary Psychologists such as Keltner and Haidt suggest that when someone experiences awe, there is a transformational process in which the individual connects with a superior power. This contact generates an overwhelming physical experience that causes a feeling of amazement allowing the individual to embrace new values (2010: 299). In fact, defining the atomic bomb as a mythical object created by American scientists provided a powerful sense of awe in text-receivers. This emotional cue was a strategy that insufflated respect and admiration for the bomb. As Keltner and Haidt observe, awe is 'likely to involve reverence, devotion, and the inclination to subordinate to one's own interests and goals in deference to those of the powerful leader' (2010: 307). Hence, the bomb was perceived as an object of worship, and as long as this new mighty power could be kept within the American domain, nothing worrisome could happen.

For the American government the most important fact regarding the A-bomb was that it ended the war. Narratives of the bomb enhanced cues of pride projecting a positive representation of the entire event. In fact, within Evolutionary Psychology '*pride* is experienced and displayed by individuals who have accomplished some social value task, and it projects the expectation of increased social status' (Keltner et al., 2006:121). Media, when using conceptual metaphors such as ATOMIC RESEARCH IS A RACE, THE ATOMIC BOMB IS AN AMERICAN POSSESION or even THE ATOMIC BOMB IS A COSMIC FORCE stimulated a sense of pride that powered the emotional response of the audience. At this point, in fact,

discourse made use of representations based on achievements, possessions, or moral qualities to display emotional cues of pride (Kövecses, 1986: 44).

The effect of this moral discourse left an imprint on text-receiver attitudes and beliefs regarding nuclear affairs. By 1947 atomic questions were more or less stable. People considered the atomic bomb a respectable object in 55% of the cases (Gallup Poll, 1972: 680). Indeed, the same survey asked also the following question: "*Should the United States continue to manufacture the atomic bomb?"* In this case, around 70% of the population thought that it should. By 1949 a total amount of 59% people still regarded the development of the atomic bomb as advisable. In the same survey, in 1947 (Gallup, 1972: 534), consultants were asked: "*What do you think is the most important problem facing the country during the next year?"* In this case, only 2% of the population listed the atomic bomb. Subsequently, just 3% of the population registered the atomic bomb as the most important problem in 1946 and 1947 (Gallup, 1972: 590, 666).

A type of discursive representation that enhanced the virtues of the bomb aided the spread of a positive reception of the bomb. That is why, when people were asked, in 1946, *"do you think the United States should stop making atom bombs and destroy all those we now have?"* 72% of the population replied no (Gallup, 1972: 613). More interestingly, nuclear energy was timidly beginning to achieve some credit as the potential energy of the future, and when people were asked (Gallup Poll, 1972: 527): "*do you think that atomic energy will be developed in the next ten years to supply power for industry and other things?"* more than 47% of the population said yes, whereas around 34% simply had no opinion.

Based on the emotional responses aroused by the type of language deployed by newspapers, during this first period (1945-1948) a veil of benevolence surrounded the bomb and atomic affairs in general. While, 'evolutionary accounts define emotions in terms of functions that enable the individual to respond effectively to environmental challenges and opportunities' (Keltner et al., 2006:117), a positive representation of atomic energy generated a benevolent reaction within the group that embraced the *newborn thing* with excitement and worship. With a halo of religious mysticism, the A-bomb became, in the conceptual representation of public opinion, a mighty, god-like object. The American public was mesmerized by the persuasive, almost counterintuitive, narrative of the atomic bomb.[33] The atomic bomb, as an element of the natural world created by mankind, reverted to a powerful contemporary myth impossible to reject. Text-receivers operated their simulations based on an infallible Machiavellian discourse whose presence went unnoticed for a long time.

Upon such a mystical object, it is understandable that out-group members would soon try to steal it. The idea of being deprived of the quasi-magical object elicited vulnerability and fear. According to Hart (2010), referential strategies are used to categorize groups in terms of in and out dichotomy. These strategies are crucial in strategic discourse because they allow the text-consumer to identify with the in-group description creating a sense of solidarity and coalition. In this early stage, nuclear discourse presented an emergence of referential strategies employed to depict Russia as outside the boundaries of the group. In fact, the graphic representation of Russia as an individual willing to trespass in American territory—indeed in the *American* house—in

[33] 'Counterintuitive narrative elements attract attention, and evoke a sense of magic or mystery, and therefore may encourage further cognitive processing that aids recall of these narrative structures' (Norenzayan et al., 2006: 347).

order to steal its treasures echoed that primitive instinctive dichotomy between in-group and out-group members. From an Evolutionary Psychology perspective, 'rapidly approaching men may indeed often pose very real physical dangers' (Neuber and Cottrell, 2006:170). The metaphorical representation of Russia as a person who is running toward the US so as to steal one of its precious objects provides emotive coercion that facilitated the appearance of fear and anger in text-receivers' emotional responses:

> Just as an anticipated threat of a charging beast evokes fear and its associated cognitions and behavioral inclinations, and anticipated threat of an attack on one's coalition by members of another coalition should do the same […] the attempted theft of a valuable group resource evoke anger in their ultrasocial descendants. (Neuber and Cottrell, 2006:171)

This representation activates in text-consumers cues of threats that are very effective to the manipulative intentions of text-producers, establishing a new interpretative stage in which the emotional mood moved from fascination to fear. In 1947, the American population was asked what was the most important issue facing the country. A total of 30% of the population answered foreign policy, Russia, and dangers of war (Gallup Poll, 1972: 680). In 1948 to the question "*What do you think is the most important problem facing this country today?"* 38% of Americans replied 'preventing the war, peace, danger of war, and working out peace,' and 27% replied 'foreign policy, getting along with Russia and other nations, helping Europe' (Gallup Poll, 1972: 726). In 1949, citizens were asked about war: *"do you think the atom bomb has made another world war more likely or less likely?"* Here 48% thought that it was less likely, whereas 51% believed that there was a greater chance of war (Gallup, 1972: 797-8). Negative responses increased, substantiated by the new rhetorical patterns describing nuclear affairs. The United States could not allow Russia to get ahead in the atomic race, let alone

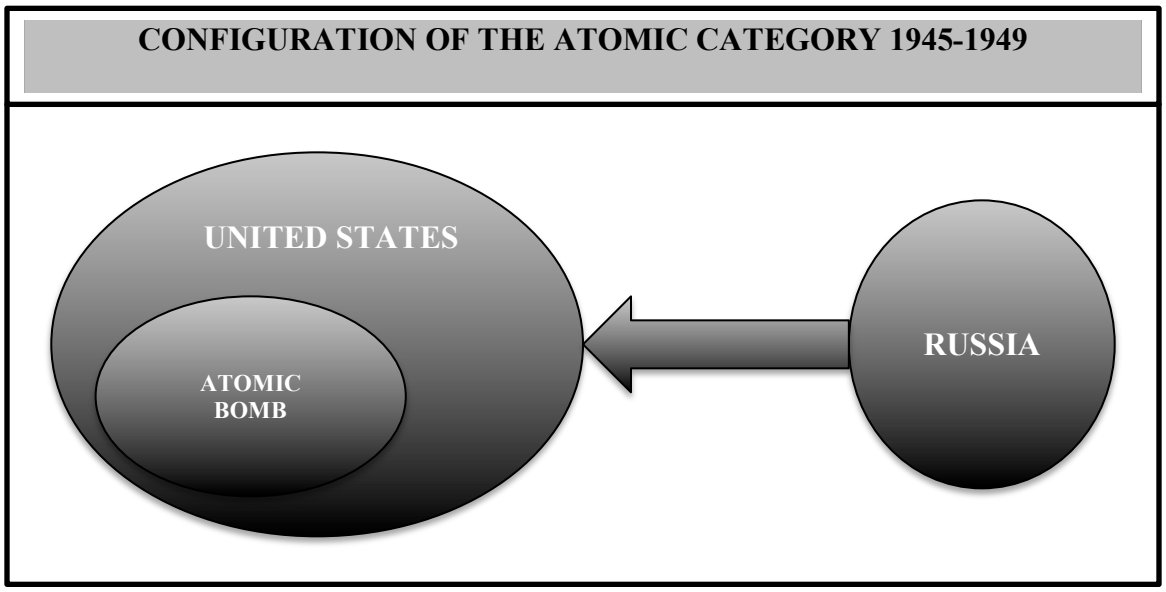
achieve nuclear power and obliterate the American nuclear monopoly. In this new scene, journalists portrayed Russia as a threat for the in-group, an outsider rival that had to be, at any cost, neutralized.

Indeed, in a scenario of war and conflict, weapons played an essential role. America needed to expand its atomic arsenal to defend itself from potential aggressors. Moreover, the US also required showing supremacy in the atomic race. The activation of cues of fear stimulated text-receivers' willingness to accept, without hesitation, the exorbitant American atomic program, because '*if* one feels vulnerable to a particular threat, *then* the evolved responses specific to that threat will be engaged' (Neuber and Cottrell, 2006:173). According to Cosmides and Tooby (2000), Evolutionary Psychology states that negative emotions drive behavior to respond to threat cues. Correspondingly, when public opinion was surveyed in the following question: *"Do you think that the United States should stop making atom bombs and destroy those already made to prove our good intentions in asking for international control of atomic bombs?"* Just 19% of the population said yes, 11% remained undecided and 65% said no (Gallup, 1972: 613). These results facilitated the transition from the birth of the Atomic Era, full of optimistic promises, into a Second Atomic Era, in which the emotive taxonomy leaned towards the horrors of the bomb.[34]

Media discourse during this period manifested a clear duality in terms of emotive coercion. On the one hand, the audience was stimulated with positive and fantastic counter narratives that made them willing to embrace the new nuclear age with optimistic expectations. Nonetheless, those were the first years of atomic exclusiveness, far from the

[34] W. L. Laurence coined this term and used it for the first time in an article published on *The New York Times* in 1949.

risks of other powers developing nuclear energy. Once this position was threatened, new emotional cues were activated to generate an attitude toward the problem. At this point, the category began to adopt the structure of a binary conceptualization based on the construction of group boundaries—US and Russia. Grounded on a set of binary opposites, this combination defined the identity of the two blocks in terms of antonymic concepts such as good/bad, friend/foe, or in/out. These binary conceptualizations constructed an ideological image of the group, and consequently of the other (Hart, 2010: 52). The mental image that text-receivers were likely to form in their minds is portrayed in the following figure:



The dynamic representation of the event placed the bomb in a metonymic relation within the American territory and Russia as an outside aggressor trying to infringe and trespass American boundaries in order to steal the bomb and achieve dominance. This interpretation was based on the metaphorical representation of the container schema and the emergent force dynamic schema in which Russia is depicted as an approaching threat. This conceptual representation was intended to elicit a very specific frame of

interpretation: the necessity for the US to exclusively possess the atomic monopoly. Media discourse attempted to create a set of beliefs that would be the basis of the prevailing ideological category established by powerful institutions.

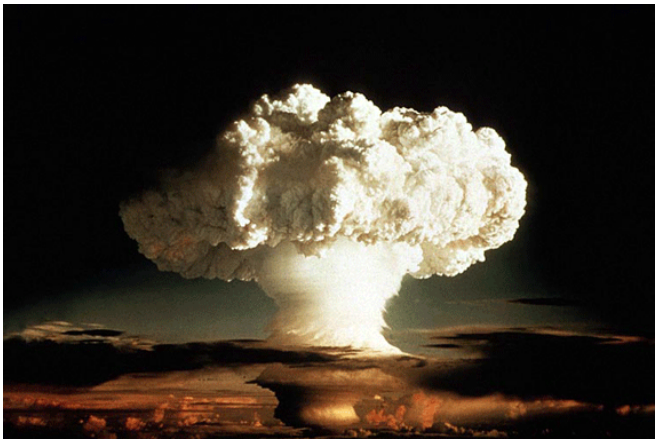
When communicating, there are certain thematic roles—who, where, how, and when—that structure social information (Hart, 2010: 39). However, considering that the type of discourse employed to define the atomic category was overtly strategic, it can be claimed that the type of ideological category that emerged from it was biased and based on very particular interests. The following table shows how media discourse could have potentially shaped it:

SCHEMATIC CATEGORY OF THE GROUP (1945-1949)	
MEMBERSHIP	We are Americans
TASK	We create the bomb
GOAL	To keep world peace and atomic energy under our control
NORMS & VALUES	We believe in world peace and control of atomic energy
RESOURCES	We have the bomb
POSITION	Russians are the enemy that wants to steal the atomic bomb

Table 1.3. Schematic category of the structure of the group from 1945 to 1949

By means of an intrinsic negotiation between text-producers and text-receivers, this ideological category became entrenched as part of the truth belief system that governed the understanding of the atomic age up to that point. From text-production, in which certain linguistic elements facilitated persuasion and manipulation, to text-interpretation, in which the receivers forged their mental categories based on strategic discourse, these two elements contribute to the establishment and perpetuation of American nuclear ideology.

2. METAPHORS OF FREEDOM, COMPETITION AND CONFLICT: THE BIRTH OF THE H-BOMB (1949-1952)



Mike Shot, Nov 1 1952. Eniwetok

'It marks the end of the first period of the atomic age and the beginning of the second'
(Laurence, NYT, Sep 24, 1949)

2.1. The Second Atomic Age

Named by William L. Laurence as the *'Second Atomic Age'*, it began during the summer of 1949 as a result of the detonation of the first Russian A-bomb.[1] This new stage opened a long period of fear and uneasiness that would only diminish by the end of the Cold War in 1991. During the years from 1949 to 1953—when Eisenhower was elected as the new President and veered toward less belligerent discourse—the concept of *nuclear anxiety* began to be forged and assimilated into the American belief system. The historical events of this period were decisive in the migration toward a darker conceptualization of atomic energy.

When in September of 1949 American authorities confirmed that Russia was in possession of atomic power, the tone used to describe atomic research—which to date had been cautious but not terribly alarmist—changed notably. In this new stage atomic energy had been wrested from the arms of the *free world* and delivered into the clutches of the Communist enemy. Indeed, the potential imminence of an attack reframed the interpretation of the Atomic Age. Russians mastery of atomic power constituted a significantly more tangible threat. In such a precarious situation, preparedness and prompt ability to engage in combat became critical constituents of atomic discourse.

This would prove to be one of the tensest periods of contemporary History. During these years the threat of a nuclear holocaust permeated every fiber of the American imagination. Until September 1949, America had been in exclusive possession of the most powerful weapon in the world. That supremacy had endowed them with an aura of almost divine sovereignty that was shattered the very morning newspapers announced the explosion of a Russian Atomic Bomb. However, to the Russian bomb, the

[1] Laurence employed this label in an article published by *The New York Times* on Jul 2, 1949.

American government gave a defiant and daring answer: a new political and military move known as 'deterrence' designed to thwart Russia's intentions to attack.

This is the time during which the race between the USA and the USSR officially began. The competition to create the most destructive device had commenced. By developing a super power—the Hydrogen Bomb, or the '*super'*—the American Government attempted to deter the enemy with the prospect of devastating retaliation to nuclear attack. The US struggled in this period to show its atomic preeminence. In the end, intense hours of research and colossal amounts of money made possible the detonation of 'Ivy Mike' on Oct 31, 1952. However, little was *officially* reported about the event, which remained in secrecy until 1954, when the US was forced to admit the possession of thermonuclear power after the Castle BRAVO accident.[2] Laypeople's knowledge of the H-bomb was gleaned mostly from media speculation and information leakage transmitted via newspapers.

Such was the power of the new device that the American government began to worry about the potential consequences of Russian possession of the technology. In January 1953, the government instituted 'Operation Candor'. This operation was meant to inform people about the dangers of a Russian atomic attack. Operation Candor was not the first time that representative authorities, by means of news media, had warned the public of the danger of a nuclear attack.[3] However, it constituted the first steps toward a consolidated system of protection known as Civil Defense. The particular discourse used

[2] Castle BRAVO was one of the many nuclear tests that the US carried out in the Pacific, shrouded in the usual secrecy of atomic research. It only came to the front page due to the incident of the sailor on *The Lucky Dragon* who, caught by the fallout of the atomic explosion—which was twice as powerful as expected—developed the classic signs of radiation sickness (Weart, 2010: 98).

[3] There are other cases of literature explaining nuclear dangers; such as the pamphlet published by *The New York Times* in 1950 entitled *We are Not Helpless*.

by Civil Defense, whose mission it was to define the 'atomic threat', created a new trend within nuclear language that became progressively, but steadily, more ominous.

The nuclear threat was indeed powerful. Russia was working hard in order to achieve thermonuclear power and, as foreseen by American scientists—who knew that Russia would develop an H-bomb sooner or later—on Aug 12, 1953 the dropping of an H-bomb by the *Russ* saw the end of that ephemeral moment of *unofficial* American thermonuclear supremacy.

2.1.1. Media Power in Times of Chaos

During the period that goes from 1945 to 1949 media had the task of constructing a mental representation of the atom bomb. In the atomic discourse of that period the emphasis was placed on the bomb and the enemies that would potentially steal it. Now, on the verge of a new era, media had a very different mission to accomplish: reporters needed to recreate the necessary atmosphere of fear required to justify the tactics—and expenses—of *deterrence*. That fear was established upon a complex representation of the enemy. As mentioned in the previous chapter, with the threat of a potential enemy the idea of a *bad bomb* was born and used in order to generate a type of anxiety that would become the epitome of the Cold War. However, during the 1945-1949 period, the media did not give a prominent position to that *bad bomb*. It was only after the Russian test of September 1949 that newspapers focused on presenting the terrible effects of atomic weapons.

During these years, the drastic opposition between West and East solidified, emerging metonymically as a representation of the ideological position expanded into bigger territories of both the US and Russia. Newspapers referred to the atomic conflict

in absolutes terms of West versus East reinforcing the frontiers that separated *good* and *evil*. However, reporters also had the responsibility of generating a positive approach to nuclear development. Emphasis was placed on the importance of nuclear development to deter Russia from attack. Media was engaged in the complex task of enhancing the glory of American nuclear energy all the while emphasizing the danger of the same technology in the hands of the Russians. In short, atomic research had to be portrayed dually as something dangerous and positive at the same time.

As a military strategy, the American government did not want to confirm the possession of thermonuclear weapons. Media discourse, in the context of this unofficial event, elaborated an extremely sensationalist image of the *super-bomb*. This mediatic delineation of thermonuclear devices had a binary purpose. The whole discursive process of talking about the new device was an exercise of deterrence meant for the eyes and ears of the enemy. In addition, showing supremacy over the atomic race served as a tranquilizer for an audience that needed progressively to learn—if not to *love*—to accept the bombs. Thus media was contributing, now more than ever, to the fortification of nuclear anxiety in the receivers' minds.[4]

[4] According to Young (2004: 12), 'a fear of nuclear annihilation and underlying anxiety that run counter to the rampant consumerism that many equate with the time, became a part of American scene'.

2.2. The Two blocs and the Confrontation: Force Dynamic and Threat

Following the first nuclear extravaganza, the period spanning the years from 1949 to 1953 descends into a rhetoric of darkness and fear constructed upon the idea of a total confrontation between the two superpowers. Analysis of a total of 257 metaphors in a corpus of 50 news articles indicate the prevalence of three themes: FREEDOM, CONFLICT and COMPETITION to represent the idea of nuclear opposition. The following table shows the distribution of data:

TOPICS AT THE GLOBAL LEVEL	***T: 257***	***%***
ATOMIC ACHIEVEMENT	110	42%
THE ATOMIC CONFLICT	73	29%
THE H-BOMB	74	29%

Table 2.1. Semantic macrostructures 1949-1953

In this new stage, America no longer retains exclusive possession of atomic power. Three main conceptual topics within this period signal the veering of nuclear ideology into a policy of confrontation and war: the notion of freedom to achieve atomic energy, the notion of competition and rivalry between the US and Russia, and the potential of conflict between them. Within the idea of conflict as a fight, the new hydrogen bomb emerges as the ultimate instrument of deterrence and occupies a remarkable position among the global topics that newspapers tout in articles about the atomic affair.

The prevalence of the H-bomb as a topic has to be interpreted as an inherent part of the concept of freedom and the American capacity to re-achieve nuclear supremacy. Indeed, the structure of the atomic category had grown into a dual model of two opposing

forces competing to obtain and maintain the privileged position of leadership within the atomic universe. At this point, the architecture of the beginning of the confrontation resembles, as in the previous stage, the structure of a motor schema:

MOTOR SCHEMA: *The confrontation 1949-1953*	
THE MAIN PROCESS	Conflict between Russia and the US; both entities are moving
AN OPTION TO RESUME	The threatening of freedom impels the US to develop Hydrogen bombs
AN OPTION TO STOP	The US to redefine its position regarding atomic developments

Table 2.2. Motor schema from 1949 to 1953

Movement is an essential part of the identity of any of the components of the atomic category: to achieve—or to keep—freedom; to be faster and win the race; to secure and control atomic power. Somehow, the bifurcation of allied forces after the war followed the configuration of a prototype of motion. The *demonization* of Russia can be interpreted as the abandonment of a position of morality for one of immorality.[5] The motor schema functions, once again, relatively well in the organization of the events concerning the development of nuclear power.

However, motor schemata are just a foundational part of a more intricate network of interdependent meaning. Movement is linked to notions of achievement, possession and freedom, for example. Certainly, within the data analyzed, there are numerous cases in which the issue of atomic ownership is graphically represented as ATOMIC KNOWLEDGE IS A PHYSICAL OBJECT, establishing a clear contentious relationship with Russia, the other holder of atomic power. Similarly, the idea of competition and rivalry is central to this period in which Russians and Americans equally shared the atomic road. As part of the

[5] See Lakoff and Johnson (1999: 299) for an explanation of morality metaphors.

superordinate schema of achievement, the frame ATOMIC RESEARCH IS A RACE becomes commonplace during these years. More importantly, and based upon morality metaphors; as an *immoral* competitor and intruder in the atomic path, the conceptualization of RUSSIA IS A THREAT becomes more and more central in the category. These three tent poles are part of a main higher level where the conception POLITICS IS CONFLICT structures the whole conceptual schema.

However, the most salient element found during this period falls into the category of deterrence. In this second atomic age, when Americans witnessed how the monopoly and supremacy of their atomic power was shaken by the threat of Russian atomic power, the only alternative contemplated implied deterring the enemy from attack with a more powerful—and totally psychological—discourse of supremacy. In order to do so, journalists placed the H-bomb at the center of the category, and while not officially confirmed by the authorities, the myth of the explosion of *the most gigantic destructive device* turned out to be central within nuclear narratives of this time.

The three main themes: achievement, conflict, and deterrence (H-bomb) are distributed into diverse schemata and local representations. The following table portrays the most common types of conceptual schemata employed to describe the topic at the local level of representation:

GLOBAL TOPIC	CONCEPTUAL STRUCTURE	LINGUISTIC REPRESENTATION
Achievement	FREEDOM	Russia is represented as breaking the atomic monopoly: *The disclosure that Russia has broken the American monopoly*
	CONTAINER	The atomic era is a container: *The U.S. atomic project is plunging into a new era*
	JOURNEY	The US is represented as making progress: *To grant the AEC authority to go ahead with the expansion*
	COMPETITION	US And Russia are in a race to produce more weapons: *U.S. LEADS H-BOMB RACE, SAY AGENTS*
Conflict	FORCE DYNAMIC	The Us and Russia are fighting: *Russia is prepared to give a crushing blow to any aggressor*
	CONTAINER	Russia is a force that must be contained: *The problems of containing the Soviet Army*
	FREEDOM	Democracy is freedom, Communism is slavery: *A victorious end for both the free world of democracy and the slave world of communism.*
	CONTROL	US is represented as in need of control nuclear weapons: *international control of atomic weapons*
	THREAT	The nuclear conflict is a poison: *There is no antidote now, and the men who are most familiar with the bomb and its ramifications are doubtful that there ever will be*
H-Bomb	MYTH	The H-bomb is a fantastic, almost mystical element: *A strange light that seemed almost mystical*
	CONTAINER	The Hydrogen era is a container: We are crossing the threshold into the hydrogen era
	FORCE	The H-bomb is represented as a deadly force: *The tremendous unparalleled force of the H-bomb–the world first–vaporized into gas and dust the atoll*

Table 2.3. Conceptual representation of the global topics at the local level 1949-1953

2.2.1. Freedom schema and the metaphor ACHIEVEMENT IS MOVEMENT

This new phase in the configuration of the atomic category was inaugurated with the dropping of the first Russian A-bomb in September 1949. The formation of the enemy's profile as immoral or evil constitutes one of the most important features of atomic discourse during this period. If in the former stage, Russia was timidly fingered as the potential enemy to outmaneuver, following evidence of the Russian detonation, it became an established opponent. In this new context, this interpretation is essential in order to justify American positions toward arms proliferation and deterrence strategies.

Terms such as 'free' or 'independent' can be interpreted as a function of containment metaphors, since to be 'free' implies not to be contained, imprisoned, bound or constrained (Chilton, 1996: 183). The concept of freedom is imperative for the persuasive purposes of atomic discourse during this time. I have mentioned in the previous chapter that most of the ideological motivations posited by the media were based on the powerful perception of freedom as a cornerstone of American beliefs. In this phase, journalists further emphasized freedom as essential for the maintenance of world order and peace. The complex ideological apparatus operating under these premises implies a dichotomy between moral and immoral, the free and enslaved, West and East.

The theme of achievement involves four fundamental schemata. The freedom schema per se is a very central element, which will be accompanied by schemata of movement and containment such as path, competition, and container:

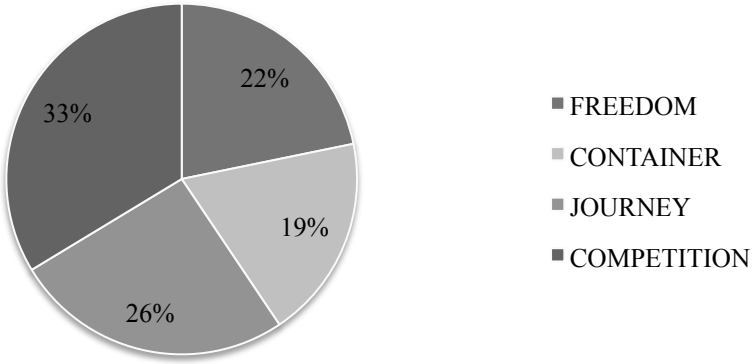


Figure 2.2. Distribution of conceptual structures for the global topic achievement

Possession is Freedom

Russia achieving nuclear power is represented as an image-schema depicting the process of possessing an object. This exemplification implies that Russia is characterized as a living thing and the bomb as the object that has been stolen from American hands. These conceptual models, set within the atomic category in the previous stage, were an inherent part of the emergent atomic ideology. Actually, this frame emphasizes notions of dispossession, in which America is perceived as a passive agent. In the same line, this dispossession means the end of the American monopoly, as Russia becomes an officially acknowledged intruder in the atomic *temple*.

The basic outline of the new situation is based on a very simple frame in which Russia possesses the bomb that has been seized from American hands. Consequently, that possession will be illustrated by means of conceptual metaphors such as ABSTRACT ENTITIES ARE OBJECTS in which the bomb is an actual object possessed by Russia, represented as a person:

(1) TRUMAN SAYS RUSS HAVE A-BOMB (9/24/49, LAT)

(2) A-Bomb at Their Disposal, Reds Admit Mum on Blast (9/24/49, CT)

(3) Soviet Union Has 'Atomic Weapon,' Moscow Says as to U. S. Statement (9/24/49, NYT)

(4) Soviet Union Now Has H-Bomb, Malenkov Boasts in Policy Talk (8/9/53, LAT)

This conceptualization implies that POSSESSION IS POWER, depicting Russia as a powerful rival. For Lakoff and Johnson (1980, 1999) there is a clear connection between control and possession, control and power. However, the idea of possession within this context involves some sort of illicit behavior. This interpretation relies on the frame employed during the previous stage in which Russia was a thief entering the American house (to steal atomic secrets). There is continuity in the configuration of the elements involved in previous stages, because, in order to create meaning about atomic affairs, previous knowledge is essential. Former discursive strategies became embedded into the conceptual composition of the meaning of atomic energy, facilitating the association of Russia with an immoral competitor. Ownership in different circumstances would have been a much more innocuous way of talking about a country developing atomic energy. However, since within the nuclear category Russia had been previously represented as a thief, the fact that Russia now possesses atomic capacity is considered an affront. America has been deprived of its bomb in an illegitimate way.

Once more, reporters turned to the metaphorical representation ATOMIC INFORMATION IS A SECRET OBJECT to emphasize the fact that Russia has gained atomic information in an illicit manner:

(1) This statement signified that the Soviet union had already discovered the secret of the atomic weapon end that it had at its disposal this weapon (9/25/49, CT)

(2) The Moscow radio early today broadcast a statement by T88S, an official Soviet news agency, which said that Russia has had the secret of the atomic bomb since 1947 (9/25/49, NYT)

(3) The Soviet Union possessed the secret in 1947 (9/25/49, NYT)

(4) It is nothing to be aroused about, except we should keep in mind that they do have the atomic secrets (10/4/51, CT)

Emphasis is upon the object itself, the secrets, and how Russia now possesses them. During the previous phase, many journalists talked about *atomic secrets* and how it was important to keep them away from the enemy/thief. In this new phase, the agent itself appears less relevant than the loss of American secrets. In fact, *atomic secret* is a recurrent image during these years because it strengthens the idea of exclusiveness. As Weart claims, the fact that atomic energy is considered as something mysterious was an important aspect of the primary definition (2012). Now that those secrets have been violated, the feeling of dishonest dispossession is reinforced, generating an adverse image of the atomic rival. Indeed, as Weart (2012: 64) states: 'control of nuclear energy was turning out in practice to mean control over secrets–and over anyone who might be near them'.

Apart from the end of atomic secrecy, Russia's test brought about an evident fact: the dissolution of the American monopoly on nuclear research. In fact, under the metaphor ATOMIC KNOWLEDGE IS AN OBJECT rests the idea of commodity, that is, of an object that provides some time of benefit. This interpretation links with the metaphor ATOMIC ENERGY IS A BUSINESS that now, when Russians possess the power to create their own bombs, will be used extensively to represent the no longer exclusive American

nuclear power. Attending to the axis of moral-immoral behavior, and considering that there is a complex approach to the idea of morality by means of the interpretation of well-being as wealth (Lakoff and Johnson, 1999: 292), the metaphor ATOMIC MONOPOLY connotes a dual portrayal of good vs. evil:

(1) An atomic explosion has occurred in Russia, a fateful portent that the Soviets have broken the American A-bomb monopoly on which the Non-Communist world depended so heavily (9/24/49, LAT)

(2) President Truman's announcement that our atomic bomb monopoly had been broken (9/25/49, NYT)

(3) Premier Malenkov said today "the United States no longer has the monopoly of the hydrogen bomb" and the Soviet Union has mastered production of that super weapon (8/9/53, LAT)

(4) The Atomic Energy Commission has removed most, if not all the doubts voiced by many when Premier Malenkov first claimed that this country's monopoly in the production of this weapon had been broken (8/21/53, NYT)

Monopoly is 'the exclusive possession or control of the trade in a commodity, product, or service; the condition of having no competitor in one's trade or business'.[6] This rather aseptic definition contains most of the elements that were already part of the conceptualization of atomic affairs: freedom, as in free market, and control, as in exclusive possession of a commodity. The fact that journalists decided to represent the Russian development of atomic energy as the loss of the American monopoly is not arbitrary. As Lakoff and Johnson (1999: 292) observe WELL-BEING IS WEALTH is one of the most important moral concepts underlying the American belief system.

However, the trading frame, while entailed with powerful moral principles, is not influential enough to sustain the organization of this new situation. The nuclear category

[6] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/121569?redirectedFrom=monopoly#eid (Last time accessed 3/12/2013)

was shifting into a very complicated dimension with a proliferation in dramatic qualities. The explosion of a Russian Atomic bomb was the turning point in the categorical shift giving way to a model of competition and conflict. Certainly, once the parameters were set and text-receivers' had assumed that atomic supremacy was seriously threatened, more and more metaphors relating to the idea of struggle and achievement emerged to stimulate morale and erase the sentiment of loss that had invaded the American imagination. Thus, atomic discourse exploited the metaphorical notion of moving forward to instill hope:

(1) Today's announcement came as this country's atomic experts went ahead with plans for new series of atomic 'test explosions' (10/4/51, CT)

(2) H-BOMB 'GO AHEAD' GIVEN (2/1/50, LAT)

(3) To grant the AEC authority to go ahead with the expansion projects (6/28/52, LAT)

(4) In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world (11/17/52, WP)

Furthermore, the expansion and opening of new *eras*—part of the already well-established container schema— was also utilized to denote the movement as achievement:

(1) American scientists are on the threshold of a very great new development which holds promise on atom driven ships and power generating plants (7/7/49, LAT)

(2) This development underscores the importance of civil defence. It likewise underscores the need for immediately expanding our own atomic efforts (10/4/51, LAT)

(3) The U.S. atomic project, now 10 years old, is plunging into a new era of super weapons and super power (1/29/53, LAT)

In the examples above, lexical selection is crucial for the conceptualization of a proactive American response to the Russian affront: with lexical items such as threshold, expansion, or plunging journalists are reinforcing the idea of the American atomic temple.

In addition, the fact that all those categorizations imply the agent to be dynamically involved in the action projects a discourse of *activity* rather than of *passivity* regarding atomic issues.

The Atomic Race

Indeed, once the atomic dispossession was a fact and Americans understood that the atomic 'child' was no longer theirs, speculation waned as an actual competition began between two rivals demonstrating their *all-out* capacity and power. The conceptual metaphor ATOMIC RESEARCH IS A RACE is implicit in the political approach of the two blocks in confrontation. Moreover, nuclear discourse had turned the rivalry into an automobile contest, in which only the fastest competitor would actually win. A large percentage of the total corpus is based on metaphors that, to a certain extent, belong to the domain of RACE.

Grounded in a dual schema of path and competition, what emerged was the conceptual metaphor ATOMIC RESERCH IS A NEW JOURNEY, which allowed a more complex interpretation of atomic affairs. Now, Russia had gained the '*right'* to traverse the lane and compete with the United States to flaunt its atomic speed. Prior to September 1949, the idea of race was merely hypothetical, but as US and Russian Nuclear competition entered the limelight, it became a tangible reality. The employment of metaphors of race is pervasive during this period:

(1) The United States is "way out front" in the world atomic race (7/7/49, LAT)

(2) Establish unquestioned and unmistakable leadership in the atomic armaments race between the East and West (9/25/49, CT)

(3) One of America's top atomic scientists declared today that Russia probably will wipe out this country's lead in the atomic bomb race in two years (10/22/49, LAT)

At this point, the atomic race became a rather conventionalized metaphor. However, the following examples show a particular feature:

(1) If there is no release from the *mad* armaments race, war is inevitable (9/24/49, LAT)

(2) If there is no release from the *mad* armaments race, war is inevitable (9/24/49, CT)

(3) A chance to take the leadership in a movement to halt the *mad* race of modern science (2/1/50, WP)

Certainly, as mentioned before, the new race is portrayed using conceptualizations that are rather pessimistic, such as THE CREATION OF ATOMIC ARMAMENT IS A MAD RACE. With this new approach, atomic research is a 'mad' competition, or one 'uncontrolled by reason'. This variation on more common race metaphors demonstrates a tendency to portray a more judgmental and distrustful idea of atomic research.[7]

In fact, the media was veering into a much more conservative and sensationalist perspective. For example, the polarization of the two powers in absolute terms of WEST VS. EAST involved two different types of construal operation. To begin with, there was a metonym that vastly extended the physical domain of both US and Russian territories to fully encompass West and East. In addition, there was a symbolic representation in which those spaces stood for significantly different ideological approaches:

[7] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/112000?rskey=lNxqa7&result=5&isAdvanced=false#eid (Last time accessed 3/12/2013)

(1) Establish unquestioned and unmistakable leadership in the atomic armaments race between the East and West (9/25/49, WP)

(2) But, at the same time, the news that the Russians are making progress in the atomic weapon race also may have a dampening effect upon the enthusiasm of some Western Europeans about collaborating with the Western powers in rearming Germany and creating a European army (10/4/51, NYT)

(3) The race between the east and west-or, to put the thing in its proper limits, between the United States and Soviet Russia–for clear atomic supremacy (10/7/51, LAT)

The extension of the metaphorical/metonymical meaning projected a powerful image of absolute confrontation. The underlying duality represented by WEST IS GOOD and EAST IS BAD relies on a binary opposition established in the former period between two politically irreconcilable ideas: Communism and Capitalism.

Nonetheless, even when the race characterized a worldwide competition, individual contestants corresponded to both Russia and the US, usually conceptualized as cars in a race. These examples, while not metaphorical per se, belong to the domain of competition and open up a frame that entails conceptualizing atomic rivalry in terms of a race:

(1) The United States is "way out front" in the world atomic race (7/7/49, LAT)

(2) At the same time it was emphasized that this country is still four years ahead of the soviets in know-how and accomplishment (9/24/49, CT)

(3) In other words, we still have a definite lead in the atomic arms race, and the chances are that we shall retain that lead, quantitatively and probably, qualitatively, for years to come, if not indefinitely (9/25/49, NYT)

(4) This country still holds a long lead over Russia in the atomic race (10/4/51)

However, while in other periods America was exclusively at the head of the race, now Russia is also competing for atomic supremacy and leading the race. The contextual effect of this type of representation makes it possible to have a subset of metaphors in

which Russia, as a participant in the race, is making progress and potentially leading the race:

(1) One of America's top atomic scientists declared today that Russia probably will wipe out this country's lead in the atomic bomb race in two years (10/22/49, LAT)

(2) Dr. Frederick Seitz, professor of physics at the University of Illinois, said .he believes there is a strong possibility that the Russians will now surpass us in bomb production and in other phase of the development of atomic energy (10/22/49, LAT)

(3) SOVIET GAIN ON U.S. IN BOMB RACE SEEN (2/4/50, NYT)

(4) But, at the same time, the news that the Russians are making progress in the atomic weapon race also may have a dampening effect upon the enthusiasm of some Western Europeans about collaborating with the Western powers in rearming Germany and creating a European army (10/4/51, NYT)

In a tight race, speed is essential for success: a belief deeply entrenched in American culture of frenetic movement that can be easily interpreted by the American audience (Kövecses, 2005: 186). In this context, speed has the dual purpose of both creating the impression of a fast America and delineating the necessity of its speed. The first works as an activator of national pride; the second is employed to persuade the American public of the necessity of spending money on atomic research. In 1953, millions of dollars were designated to go toward atomic research (Franklin, 1988). The government was therefore compelled to persuade the people of the critical nature of the investment. The conceptualization of atomic research was summarized in a submapping wherein the main metaphoric entailment would be SUCCESS IS SPEED, part of the main conceptual metaphor ATOMIC RESEARCH IS A RACE. Aside from the reward of being the first in the race, as a continuation of the conceptual metaphor PROGRESS IS MOVEMENT FORWARD, velocity implies success and, consequently, rapid achievement:

(1) The Atomic Energy Commission planned to speed up preparations of an atomic bomb effects handbook designed to aid civilians defence planners (9/25/49, WP)

(2) He said he felt the "utmost speed" was necessary in making the weapon (2/1/50, WP)

(3) Plans are being made for construction of a 100,000.000,000 in volt atom smasher to speed research into new ways of releasing nuclear energy. (1/29/53, LAT)

(4) It will be recalled that more than three years ago the United States decided to accelerate work on all forms of atomic weapons (8/20/53, CT)

This hectic visualization of the nuclear development is imperative to understanding the emotional response of public opinion. Speed, coupled with the notion of an uncontrolled situation, provoked a sense of instability in which a growing fear for an uncertain future was portrayed with powerful images of competition, conflict, and attack.

2.2.2. The Atomic Conflict: Force Dynamic Schemata and Russia's Attack

With America's position as world leader in jeopardy, a new type of conceptualization arose that established a conceptual model of the US-Russian relationship. Based on the differences that the two superpowers maintained regarding nuclear polices, the discursive mood had found a new niche in the domain of conflict and war, even when their attitudes were, in fact, far from an actual war.[8] Based on the main conceptual metaphor POLITICS IS CONFLICT, once Russia became an official participant in the atomic *race*, the preferred approach to depicting the difficult relationships between West and East would be that of a *Cold* War.[9] Within the corpus for the period that goes

[8] As Grossman (2001: 12) points out, the (early) Cold War was conceptualized as a real 'hot' war because that was the national security policy to mobilizing citizens. Chilton (1996) claims that the actual idea of Cold War was based on that metaphorical presupposition.

[9] Conflict can be interpreted as:

> Since it results from forces, whether internal or external, pulling in opposite directions, and capable of reaching crisis-point, conflict symbolizes the potential of passing from one extreme to the other and of reversing a tendency toward good or evil—freedom or slavery, sorrow or joy, sickness of health, war or peace, ignorance or wisdom, revenge or forgiveness, separation or reconciliation and so on. Its image is the crossroad (Chevalier and Gheerbrant, 1996: 231).

from 1949 to 1953 there is a high number of metaphors related to CONFLICT. The following chart shows the main schemata employed to convey notions of atomic divergence:

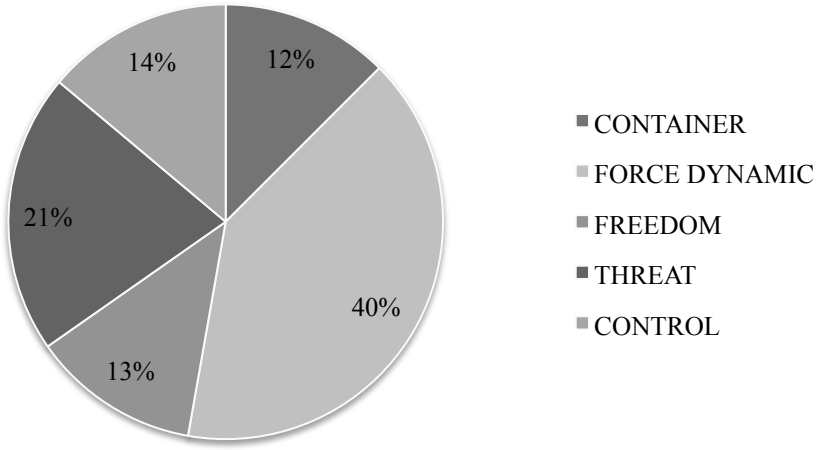


Figure 2.3. Conceptual schemata for the topic 'conflict'

The path schema, formerly exploited to depict a promising future, was transformed by the prospect of Russia supremacy. However, with the collapse of the COMPETITION schema, a swerve in ideological interests obliged media reporters to choose, more and more frequently, representations belonging to the category of CONFLICT. As Chateris-Black (2004: 91) observes:

> In pragmatic terms the choice of a conflict metaphor determines the nature of the speaker's evaluation. The conflict is either *for* abstract social goals that are positively evaluated such as: right, freedom, faith, etc. or *against* social phenomena that are negatively evaluated such as poverty, disease, injustice etc.; these social ills are conceptualized as 'enemies'.

This contingent situation was conceptualized in terms of a fight between two opponents. In fact, most of the times, this new frame delineates a very specific image of

Russia as a belligerent, hostile opponent. A process of '*demonization'* of the adversary becomes a core principle within this stage. Indeed, according to Chilton (1996: 131) 'security' was a term that emerged precisely during this period as the consequence of the universal vulnerability brought on by the advent of modern weaponry. Definitely, media discourse in this stage reflected the general ideology of a widespread anti-Russian attitude. The fact that Russia possesses atomic power sufficient to equal or surpass American supremacy is immediately linked to the idea of attack:

(1) ACT TO THWART ATTACKS; TRUMAN ORDERS H-BOMB (2/1/50, CT)

(2) Atom Effects: We Are Not Helpless in Attack (8/14/50, NYT)

(3) If our vulnerability to atomic attack is permitted to remain high, says Dr. Berkner, we shall find ourselves in a critical dilemma when the Soviet acquires a striking force, because we face the ultimate alternatives of capitulation or destruction (5/17/53, NYT)

(4) President Eisenhower today voiced an 'appeal to the common sense of America' to prepare, without panic or hysteria, for the possibilities of atomic attack (12/15/53, LAT)

It is important to notice that these examples above are not lexical metaphors but a literal use of the work attack to frame the relationship between Russia and the US; I bring it here as a part of my corpus because war and attack were indeed linguistic constructs more than actualities. However, the constant employment of this type of language reverted into a conceptualization of atomic matters in terms of war and bellicose conflict.

More importantly, the CONFLICT is diverted into a scenario of FIGHT implying the physical struggle of two opponents: the container schema in coordination with force dynamic models in which the two blocs are on the move. The submapping of this representation involved imagining Russia and the US in an actual contentious encounter.

The representation of the situation is described by means of verbs and elements that belong to the domain of physical (often pugilistic) fighting in which Russia attacks the US:

(1) Russia is prepared to give a crushing blow to any aggressor who wants to violate the peaceful life of the Soviet Socialist Republics (8/9/53, LAT)

(2) Project East River an official of the vulnerability of the United States to atomic attacks concluded that as few as 100 A-bombs could seriously cripple our Nation and several times as many bombs could produce a knockout blow (9/17/53, WP)

(3) For the first time in history our country is open to foreign attack–an attack which could produce a knockout effect (9/17/53, WP)

All these examples create a contextual milieu of CONFLICT and WAR, and what is more, by means of the type of agentivity features presented in the examples Russia is profiled as an imminent threat. Threat is defined as 'painful pressure, oppression, compulsion; vexation, torment; affliction, distress, misery; danger, peril'; and more interestingly, the semantic structure of the threat is directly related to the mind.[10] The examples above, in fact, all reference the possibility of a knockout, a metaphor that works on two different levels. To begin with, the idea of a fight between the US and Russia is vividly portrayed and in that context, ATOMIC RIVALRY IS A FIGHT. At a different level, the implications of a knockout, which literally means 'to strike or dash out by a blow; to stun or kill by a blow',[11] or similarly, to deprive of power or consciousness, according to the particular meaning of *to stun*.[12]

[10] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/201152?rskey=IT3lc0&result=1&isAdvanced=false#eid (Last time accessed 3/12/2013)
[11] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/104090?rskey=pHoYtw&result=1&isAdvanced=false#eid310725636 (Last time accessed 3/12/2013)
[12] http://www.oed.com.ezp-prod1.hul.harvard.edu/search?searchType=dictionary&q=stun&_searchBtn=Search (Last time accessed 3/12/2013)

In fact, as we have noted, the conflict between the US and Russia had become the conflict between West and East. Chilton (1996: 147) claims that the container schema offered a natural instrument for making sense of US-Russia relations and moreover, it operated as a principle of *physical* division, delineating the boundaries between East and West. As a powerful discursive strategy, the West will be identified in this context with the 'free world'. This conceptualization strengthens the emotional connotations that the media wished to project; 'words such as 'free' or 'peaceful' in combination with 'world' are positive ways of packing rhetorical meaning to give a very attractive representation of America world hegemony' (Chateris-Black, 2011: 152). In addition, as Lakoff (2006) claims, the idea of freedom is essential for American ideology. The fact that Russia is moving ahead along the path of atomic research puts the US in a situation in which they are occluded, powerless and threatened (Lakoff, 2006: 30). Indeed, the representation of Russia as the absolute enemy of the world creates an atmosphere of constant threat to the freedom of the world. The following examples show how the spatial identification of free vs. slave is portrayed by way of nomenclatures such as 'free people' or 'free world':

(1) It is equally correct to say that the eyes of the free peoples of this planet are anxiously turned to America, to see how this country will react (9/25/49, LAT)

(2) In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world (11/17/52, CT)

(3) Within two and a half years that atomic 'midget" had grown big enough to obliterate Hiroshima and Nagasaki, Ironically, it brought the greatest war in history to a victorious end for both the free world of democracy and the slave world of communism (12/1/52, NYT)

(4) Afterward, Chairman W. Sterling Cole (R) N.Y., said in a brief statement that the United States, and thus the free world, is and will continue to be in a pre-eminent position in both A-bomb and H-bomb' developments (8/22/53, LAT)

In a complex twist that incorporates different degrees of conceptualization and contextualization, the metaphorical representation projected in these instances is THE US IS THE FREE WORLD. This is based on a container schema that allows expanding the ideological territory of the US to the entire globe. The potential threat for Americans becomes a threat, indeed, for all the "free people of the world". The representation of free people implies that the threat is no longer just an American issue, but one concerning all Western civilizations. The metaphorical representation of *the free people of the world* implies conversely the slavery of everyone else. Once more, the intense *demonization* of the enemy emerged with based on cultural schemata of morality (freedom) vs. immorality (slavery). These cultural schemata belong to American ideological system and cannot be decoded without being participant of these types of group beliefs. The power of metaphors of freedom resides on shared cultural knowledge and shared ideological principles.

With the tangle of different metaphorical representations working together in a submapping in which freedom is the core element in CONFLICT, the resulting picture is a global evil attempting to enslave the free world. The whole schema of the nuclear category is embedded within the frame of the conceptual metaphor ATTACK. At this point, the US began moving toward a discursive policy of DEFENSE:

(1) The attitude of the western world had its, leaders neglected to take the fullest advantage of the present psychological moment, In order to prepare rapidly their defenses in case of emergency (9/25/49, LAT)

(2) It is part of my responsibility as Commander-in-Chief of the Armed Forces to see to it that our country is able to defend itself against any possible aggressor (2/1/50, WP)

(3) The committee statement came as Civil Defense Administrator Val Peterson warned that the Soviet H-bomb explosion means. We must prepare a better and bigger civil defense much sooner than many realize (8/22/53, LAT)

(4) President Eisenhower asserted today that the United States and its allies were forced to continue stockpiling atom and hydrogen bombs to defend themselves against Communist Russia's plans for world domination (10/7/53, NYT)

Defense was depicted as a physical construct that aimed containing and stopping Russian forces from an attack, the literal meaning of defense contrast with the actual metaphorical meaning that this interpretation entails. More that a literal physical defense, the US was attempting to raise a figurative wall of defenses against the fear of the growing Russian power. In fact, given the strength of the Russian forces, the idea of defending the world from enemy attack not implies defense, but also some sort of action. This Second Atomic Age is the time of deterrence: 'while the arms race continues, the leaders repeat magical formulas to ward off evil spirits. The key term in this exorcism is the word 'deterrence'' (Van Belle and Claes, 1985 in Chilton, 1985: 92). In order to prevent and defend free nations from the tyranny of Russia's atomic power industrious venture must be undertaken. While it will take time, effort and money to amass the proper *defenses* necessary for the free world, an American deterrence based on the building up of atomic weaponry will be the primary instrument with which to confront the enemy.

2.2.3. Preparedness and Deterrence: the Making of the *'Hell Bomb'*

Preparedness, containment and defense constitute the ways in which American newspapers responded to the dangers of the Russian threat. Deterrence constituted the magic word; 'the capability to deter consists in having sufficient armament, especially in the nuclear domain, to be able to respond to every attack' (Van Belle and Claes, 1985 in Chilton, 1985: 93). Under the scope of deterrence policy, a strong motivation to present a conceptualization based on new atomic achievements emerges within a varied set of metaphors belonging to the domain of DEVELOPMENT. Path, speed, and success are essential for that configuration. The following chart shows the distribution of conceptual schemata related to the H-bomb:

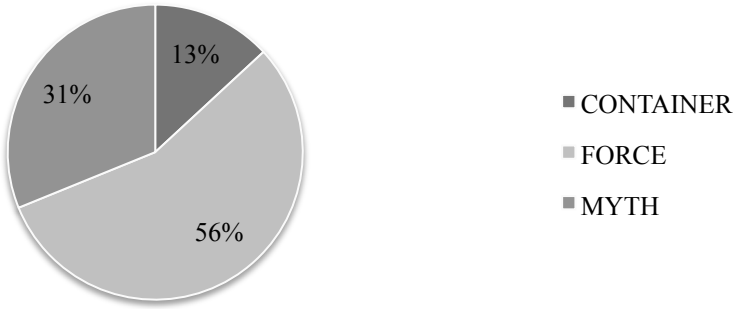


Figure 2.4. Conceptual structures for the topic 'H-bomb'

Deterrence

Deterrence appears to be a simple strategy. The Oxford English Dictionary defines it as: 'the reduction of the likelihood of war by the fear that nuclear weapons will

be used against an aggressor'.[13] However, as Van Belle and Claes (1985 in Chilton, 1985: 96) observe:

> The system of deterrence is such that defending oneself can only be an act of aggression, because it consists of a destructive attack. Conversely, an attack could also be a destructive defence out of fear. In this disastrous mirror relationship the boundaries between defence and attack have disappeared.

Deterrence, indeed, relates to the notion of freedom and achievement that Lakoff (2006: 29) proposes: 'wherever there is an issue of setting and achieving goals, there is an issue of freedom'. For that reason, deterrence served as a new move to reestablish freedom, as it implies the achievement of purposes by performing a desired action. Newspapers incorporated deterrence as a part of the attack schema:

(1) We should let nothing stand in the way of arming this country atomically in such a way as to erect a great deterrent (9/25/49, WP)

(2) A well-organized civilian defense against a possible atomic attack, added to an efficient, military defense, is the best possible deterrent against such an attack (8/14/50, NYT)

(3) He declared the free world's "unbreakable will" to deter aggression and to preserve its freedom and security (10/7/53, NYT)

To deter can be interpreted as 'to discourage and turn aside or restrain by fear; to frighten from anything; to restrain or keep back from acting or proceeding by any consideration of danger or trouble'. Indeed, we can consider deterrence in terms of changing one's mind.[14] According to Derrida (1984: 24):

> Dissuasion, or deterrence, means 'persuasion'. Dissuasion is a negative mode or effect of persuasion. The art of persuasion is, as you know, one of the two axes of what has been called rhetoric since classical times. To dissuade is certainly a form of persuasion, but it involves not only persuading someone to think or believe this or that, but persuading someone that something *must not be* done. We dissuade

[13] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/51259?redirectedFrom=deterrence#eid (Last time accessed 3/12/2013)

[14] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/51209?rskey=7cPof8&result=1&isAdvanced=false#eid (Last time accessed 3/12/2013). In addition to the main definition, the Historical Thesaurus in the same entry has been consulted.

> when we persuade someone that it is dangerous, inopportune or wrong to decide to do something. The rhetoric of dissuasion is a performative apparatus that has other performatives as its intended output.

The best defense, claimed authorities, is terrifying, *dissuading*, the enemy so it will not dare to attack. But 'what does deterrence consists of? Since it would be impossible to defend one's own population against a nuclear attack, NATO tries to prevent such an attack by striving for a military balance of mutual terror or deterrence' (Van Belle and Claes, 1985 in Chilton 1985: 92). This doctrine was named Mutual Assured Destruction (henceforth MAD) and marked the rhythm of a new interpretation of atomic affairs (Franklin, 1988: 170).

However, in order to change the enemy's mind, American needed to demonstrate its determination to prevail in the atomic race. The first and most necessary demonstrations required the enhancement of American supremacy and command. In order to project a solid image of prevailing power, journalists draw on conceptualizations previously exploited in order to define the glories of American atomic research. This period thus gives rise to a return to the magnification of the Atomic Age by means of metaphors belonging to the domains of power, development, new era, or new path. Development associated with expansion, as a literal occupation of space, can be conceptually related to control, supremacy, and more specifically to conquering.[15]

The new research distils the sense of a conquest in which American scientists penetrate the mysteries of hydrogen fission, as pioneers of a former age in search of power. In fact, following the structure of the JOURNEY metaphor, the H-bomb is the token that Americans scientists would find—the mission's most desired goal. In the following

[15] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/51434?redirectedFrom=development#eid (Last time accessed 3/12/2013)

examples, building and construction metaphors are employed to portray achievement in thermonuclear research:

(1) NEW ATOMIC DEVELOPMENT TO CREATE POWER REVEALED (7/7/49, LAT)

(2) President Truman today gave the fateful order for development of the hydrogen super-bomb so that the United States may defend itself "against any possible aggressor" (2/1/50, LAT)

(3) The advisory group of scientific experts recently sent Mr. Truman a 'progress report' setting forth developments in the multi-billion-dollar program to built more, new a better atomic weapons. (6/28/52, CT)

(4) It was designed to further the development of various types of weapons (11/17/52, NYT)

Developing thermonuclear power implies building, growing, expanding. The implications of these actions are related to movement as a way to attain freedom, but also power. Indeed, as these examples show, the expansion of atomic power fuses the conceptualization of development as movement and deterrence as attack. While development can be interpreted here as a projection of freedom, it also performs a reinforcement of the domain of power and supremacy. In the context of deterrence the production of more destructive atomic devices—particularly the hydrogen bomb—can be contemplated both as the recovery of American sovereignty in atomic affairs and as an aggression capable of unleashing a spiral of destruction.

Formerly, atomic research had been represented as a long road of discovery that American scientists had to explore in order to maintain freedom and moral superiority. As in the previous stage, the new developments are illustrated in terms of motion as PROGRESS IS MOVING AHEAD. However, in the new landscape of deterrence, the conception of moving along the path toward the goal of atomic supremacy has a dual function: as an emotional enhancer of American pride and as a potential threat to Russia. The following

examples depict this type of metaphorical conception in which movement implies the prominence within the atomic competition:

(1) It appears that in this, macabre world series we are well ahead on points (though in some doubt about our opponent's true score) and have in fact reached a stage in the game where a major decision on tactics must be made (10/7/51, LAT)

(2) The advisory group of scientific experts recently sent Mr. Truman a 'progress report' setting forth developments in the multi-billion-dollar program to built more, new a better atomic weapons (6/28/52, LAT)

(3) In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world (6/28/52, LAT)

(4) At the same time, this government is pushing with wide and growing success its studies directed toward utilizing these energies for the productive purposes of mankind (11/17/52, WP)

JOURNEY schemata efficiently delineate thermonuclear research as a new epic conquest by Atomic scientists. Indeed, deterrence is a risky venture portrayed in numerous occasions as a decisively American adventure. As a matter of fact, 'tasks might be finding treasure of some kind (usually guarded by a dragon or other dangerous beast); finding the solution to a riddle (e.g. Rumpelstiltskin), or realizing a series of a self-imposed tasks as part of a voyage of adventure' (Chateris-Black, 2011: 324):

(1) The methods and sources of the discovery are deep dark secrets (9/25/49, WP)

(2) NEW ATOM SECRETS DISCOVERED BY U.S. (6/28/52, LAT)

(3) Dr. Oppenheimer's guarded comment on great developments immediately touched off speculation that the quest for a formula to produce the so-called hydrogen 'hell bomb' may have been crowned with success (6/28/52, LAT)

As in the previous period, the media resorted to the concept of a new historical era to portray deterrence as a new destructive order. One more time, this conceptualization

relies on the structure of the JOURNEY schema and the idea of FREEDOM IS ACHIEVING PURPOSES:

(1) New Era of Atom Weapons Opens With Blast in Nevada Tomorrow (4/21/52, NYT)

(2) We are crossing the threshold into the hydrogen era–the age of H-Bombs (6/28/52, LAT)

(3) Perhaps Tuesday's ceremonies will usher in a new era of atomic energy, an era in which the emphasis will be more and more on nuclear fission as a servant of the people (11/30/52, WP)

(4) The U.S. atomic project, now 10 years old, is plunging into a new era of super weapons and super power (1/29/53, LAT)

All these contextualizations play a fundamental role in preparing the public for an overwhelming—and exorbitantly expensive—research that entailed the construction of the first Hydrogen bomb (Franklin, 1988). In this new scenario, although the path schema is still in effect, a more complex myriad of force dynamic schemas convey a sense of attack. The definition of the H-bomb by the media will be able to be considered a psychological attack upon the Communist rival.

The Making of the H-bomb

In this structure of JOURNEY the most prominent aspect is not the path itself, but the goal: achieving thermonuclear power. From 1949 to 1953 the H-bomb is *the new A-bomb*. Even up until 1954 when it did not officially exist, the *Hell* bomb occupied the front pages of the main American publications since the early 1950s. The propagandistic mission of media discourse at this point is very complex. In a state where deterrence was the political strategy, the type of language that journalists had to endorse was constructed upon dual strategies of persuasion and dissuasion. Although the explosion of H-bombs was mostly based on speculation, soon newspapers affirmed that American scientists had obtained the *precious object* (Lakoff, 2006: 29):

(1) H-Bomb Test Explosion in Pacific Hinted (11/7/52, LAT)

(2) 'First H-Bomb Blast' Described in Letter (11/9/52, WP)

(3) IT WAS AN H-BOMB BLAST, SAILOR SAYS (11/12/52, LAT)

(4) It sounds like official language for a successful H-bomb (11/17/52, NYT)

Albeit not metaphorical, there is a clear allusion to achievement in these examples. Predicative strategies stressing the power of the detonations become central in these samples. Nouns such as *blast* and *explosion* indicate a degree of anger that can be read as a violent response to the Russian defiant position. However, these examples also elicit a sense of safety and security in text-receivers, because they create a connection between the H-bomb (a concrete element) and the achievement of freedom.

The H-bomb, compared to the A-bomb, is definitely construed in more aggressive terms. The tremendous power of the new device is constantly reiterated and conceptualized as a *tremendous* destructive force:

(1) Mr. Truman indicated that the nation's atomic scientists may already have started tackling the problem of creating a weapon far surpassing the *destructive* fury of the A-bomb (2/1/50, NYT)

(2) Unofficial conjecture has suggested that an A-bomb, built inside the H-bomb, would be used to trigger. The new weapon setting off *explosive* forces like those on the sun (2/1/50, LAT)

(3) It is likely, Clausen wrote, that the *tremendous* unparalleled force of the H-bomb–the world first–vaporized into gas and dust the atoll, a half mile wide and three miles long, on which the detonation took place (11/9/52, WP)

(4) The hydrogen bomb gains its *tremendous destructive* force through fusion rather than fission (11/17/52, WP)

Though not known within atomic discourse, the conceptual metaphor ATOMIC ENERGY IS A *TREMENDOUS* FORCE now presents a much more intense sense of the birth of something terrible. Predication strategies like these introduce the atomic force as deathly and destructive. In addition, primary metaphors such as MORE IS UP and MORE IS POWER

create a rather embellished image of atomic might. Right from the beginning, the H-bomb accumulated interesting nicknames that enhanced the sense of its destructive capacity. That is the case for the appellative 'super-bomb' or 'super' as journalists would refer to thermonuclear devices:

(1) President Truman today gave the fateful order for development of the hydrogen super-bomb so that the United States may defend itself "against any possible aggressor" (2/1/50, NYT)

(2) This, the most powerful superbomb that can be built on earth, it can now be revealed, actually is the triton bomb, in which the basic element used is tritium, a hydrogen isotope (twin) of atomic mass 3 (2/1/50, NYT)

(3) The brief, single paragraph announcement said only that the latest series of tests will involve atomic weapons and gave no hint as to whether they will include the projected hydrogen super-bomb which, when perfected, reputedly will be 1,000 times more powerful than the atomic bomb (9/10/52, CT)

(4) Atomic Energy Commission announced tonight "satisfactory" experiments in hydrogen weapon research amid informed speculation that this meant a super-atom bomb had been exploded in recent United States tests (11/17/52, NYT)

The prefix super- can be defined as 'forming adjectives and nouns denoting a thing which is situated over, above, higher than, or (less commonly) upon another, and verbs expressing this relation'.[16] The fact that the labeling of the H-bomb relied on this idea of magnitude cannot be interpreted as a metaphorical entailment, but an evocation of a conceptual metaphor in with size is a positive feature. One of the more basic primary metaphors is MORE IS UP, which is culturally associated to metaphors such as GOOD IS UP. These metaphors, MORE IS UP and GOOD IS UP work together to project a conceptualization based on another primary metaphor: MORE IS POWER (Grady, 1996). During the deterrence period, there is a constant emphasis on the power of the Hydrogen bomb as a hyperbolic-metonymic representation of American might. The super, as was commonly known the

[16] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/194186?rskey=gJoxLQ&result=20&isAdvanced=false#eid (Last time accessed 3/12/2013)

hydrogen bomb in the journalistic argot, was at a higher level of destruction and power than any other weapon had been before.

Indeed, THERMONUCLEAR WEAPONS ARE POWER is a constantly recurring image within strategic discourse of this period. The following examples show the extensive use of the domain of power to characterize the H-bomb:

(1) To produce the hydrogen bomb which some sources estimate would be 1,000 times more powerful than the first A-bomb (2/1/50, CT)

(2) This, the most powerful superbomb that can be built on earth, it can now be revealed, actually is the triton bomb, in which the basic element used is tritium, a hydrogen isotope (twin) of atomic mass 3 (2/1/50, NYT)

(3) The brief, single paragraph announcement said only that the latest series of tests will involve atomic weapons and gave no hint as to whether they will include the projected hydrogen super-bomb which, when perfected, reputedly will be 1,000 times more powerful than the atomic bomb (9/10/52, CT)

(4) Known facts make it evident that the tests at Eniwetok just completed involved the explosion of the most powerful atomic (fission) bomb developed so far and that these latest models of fission bombs tested also incorporated certain relative small amounts of the two type of hydrogen that will serve as the ingredients of the full-fledged hydrogen bomb (11/18/52, NYT)

The examples above are not metaphorical but cases of predication strategies in which a hyperbolic quantification of the H-bomb is performing metaphorical entailments that imply a conceptualization based on POWER IS MORE. In relation to these categorizations, numerous examples include large numerical amounts in the definition of the new device. Another type of hyperbole, this strategy creates a feeling of immense quantity that boosts the conceptual metaphor POWER IS MORE. These types of discursive strategies are fundamental for the configuration of a solid image of destructive power, something absolutely necessary in order to deter Russia from attack:

(1) In the heart of this blast is the white heat, and raw disintegration of matter that produces for micro-seconds (millionths of a second) an equivalent of the 50,000,000 degree Fahrenheit heat of the sun itself (7/15/51, CT)

(2) This "super-bomb" is expected to "yield" 300 to 500 kilotons, or 300,000 to 500,000 tons of explosive force, as compared to the relatively puny 20,000 ton "Model T" bomb that destroyed Hiroshima (4/21/52, NYT)

(3) We have developed fission bombs in the range of 120,000 to 150.000 tons of TNT (11/18/52, NYT)

(4) Plans are being made for construction of a 100,000,000,000 in volt atom smasher to speed research into "new ways of releasing nuclear energy." (1/29/53, LAT)

Bolstering the domain of power becomes a crucial step so as to project confidence, supremacy, and freedom. Beyond its role as a deterrence strategy, this representation also constituted a crucial tactic to convince people that developing thermonuclear power—one of the most expensive programs undergone by the American military—was the right strategy.[17]

However, the definition of the new bomb had to traverse a careful line between pride and terror. The secrecy of the H-bomb project worked both to enforce the idea of its exclusivity and as a warning for Russia. Certainly, the project of building the H-bomb was an absolutely secret enterprise. Indeed, the secrecy concerning atomic affairs of that time was such that nobody within official channels was willing to confirm the use of Hydrogen bombs until 1954.[18] Secrecy was not a new strategy, as it was extensively applied during the former period, yet once more it represented a recursive aid to promote the myth of atomic research:

[17] Franklin (1988) presents an accurate account of the amount invested on nuclear research during the 1950s.
[18] Regarding secrecy, Bundy (1988: 201) observes: 'the president himself strongly supported a policy of secrecy and indeed insisted on it at every opportunity. He believed that everything connected with the knowhow of the bomb, and still more everything connected with the changing size and shape of the American stock of nuclear weapons, should be held as closely as possible'.

(1) THE explosion depicted in the photograph reproduced in the cover of this magazine is, without much doubt, the first close-up of the new, much hinted at, but still officially secret, atomic artillery shell in action. (7/15/51, CT)

(2) NEW ATOM SECRETS DISCOVERED BY U.S. (6/28/52, LAT)

(3) The heavy secrecy surrounding the forthcoming Eniwetok tests gave rise. However, to reports that at least a preliminary form of the hydrogen bomb will be set off (9/10/52, CT)

(4) The United Slates may be keeping secret an explosion or the world's first full-scale hydrogen bomb (11/7/52, LAT)

Tests were shrouded in secrecy and steeped in the allure of the unknown. Just exactly in the same fashion as the A-bomb had been defined as a nearly mystical secret object, the discourse of the H-bomb emphasized similar attributes. In this case, the secrecy was rather literal since little was known about the actual facts regarding thermonuclear tests.

This situation of *unofficial-ness* endowed the press with substantial freedom to imagine the H-bomb. For several years newspapers constituted the only source of information about the progress in thermonuclear development. Reporters adopted formulas that had been used to define the atomic bomb and twisted them to project a more appalling image. Thus, basic metaphorical representations such as ATOMIC ENERGY IS A COSMIC ELEMENT were once again employed to define the *super*. Information about the H-bomb under the scope of the conceptual metaphor ATOMIC ENERGY IS COSMIC ENERGY occupies, in this stage, a solid position within the categorization:

(1) Unofficial conjecture has suggested that an A-bomb, built inside the H-bomb, would be used to trigger. The new weapon setting off explosive forces like those on the sun (2/1/50, LAT)

(2) The most powerful nuclear reaction possible in nature, and it takes place in the sun at the rate of four pound per second (2/1/50, NYT)

(3) In the same way the sun's composition and behavior have been analyzed (5/8/52, CT)

(4) The process is said to create a heat equal perhaps to that of the sun, and results in far greater release of energy than in the fission process (11/17/52, CT)

In these representations the sun is depicted as a powerful, almost god-like entity. Given the duality presented in the H-bomb itself, more emphasis is placed on the *inexhaustibility* of the sun's power. This conceptualization has two different readings: it can be interpreted as a positive element, with all its brightness and life, but it also can be understood as a never-ending source of power (and deterrence).

There is, however, a clear move into a more dramatic visualization of nuclear energy. Light ceased to be associated with clarity, its stunning effect emphasized in order to facilitate an atmosphere of fear and despair. The domain of LIGHT portrays the H-bomb as an eerie entity:

(1) Then suddenly the surrounding mountains and sky were brilliantly illuminated for a fraction of a second by a strange light that seemed almost mystical (2/2/51, NYT)

(2) The explosion was like a supersonic-speed sunrise, with an initial, point of illumination burgeoning instantaneously into a great fiery ball which spread its light, under a heavy cloud overcast, for hundreds of miles (5/8/52, CT)

(3) The blast, the letter said, was viewed through dark glasses and "appeared a huge orange ball, which grew larger and brighter" (11/9/52, WP)

(4) Orange-red clouds shot about halfway up the mushroom. It blew the top of a building 18 miles away (11/12/52, LAT)

The interior mechanisms working beneath this frame are much more complex than they first appear. The use of very specific collocations such as *mystical*, *great*, *fiery* or even *orange*—which is symbolically associated to fire and flame—provided a brutal vision laced with sentiments of awe, respect and fear. Moreover, in these examples light is associated to fire. It can be argued that 'fire and light when combined as metaphor source domains have the rhetorical effect of hyperbole' (Chateris-Black, 2011:73).[19]

[19] I have mentioned before that fire can be associated to life and illumination; however as Bierdermann (1996: 129) observes, 'fire also has the negative aspect of the fires of hell, the blaze and the lightning bold (fire from the heavens) that destroy, and the volcanic fire that spews forth from the bowels of the earth'.

The H-bomb was depicted with images far darker than those of the A-bomb. Light has been always associated with metaphors such as LIGHT IS SEEING, or LIGHT IS PURE. However, in this new scenario, it occupies a much more ambiguous position. In contrast with the light of the A-bomb, there is a sense of obscurity in the representation of the H-bomb. To this regard, Schaller et al. (2003: 114) observe:

> The onset of darkness can arouse anxiety and fear. This makes considerable adaptive sense given that in darkness there is a diminution of visual information—a major liability for a species that relies heavily on vision to navigate physical and social landscapes and to avoid dangers lurking within those landscapes. Thus, whereas ambient light may be reassuring, the onset of darkness may serve as a heuristic cue indicating vulnerability to physical danger.

In relation to light and obscurity, one of the most salient representations of the bomb is the new lexical characterization of 'Hell Bomb':

(1) Dr. Oppenheimer's guarded comment on great developments immediately touched off speculation that the quest for a formula to produce the so-called hydrogen 'hell bomb' may have been crowned with success (6/28/52, LAT)

(2) Officials of the Atomic Energy Commission persisted in tightlipped silence today in the face of reports that the first American-made hydrogen 'hell' bomb has been exploded in the South Pacific (11/12/52, LAT)

(3) The writers. Including junior officers and crew members of ships near the scene, told of a weapon that seemed to be, indeed, a "hell bomb" and one writer reported seeing a mile-wide, island disappearing (11/17/52, NYT)

(4) If the letter writers actually saw what they described, the weapon obviously lived up to its unofficial billing of a 'hell bomb' (11/17/52, WP)

'The hell bomb', indeed, became a normal way to refer to this new device. The allusion to hell represents a powerful archetype image based on religiousness and cultural backgrounds. As Chateris-Black (2011: 217) observes, 'the rhetorical object of choosing words from the domain of religion is to enhance the ethos of the speaker because they imply that political decisions are made on the basis of high principle rather than crude self-interest'. The domain of HELL involves a wide range of cultural associations and

implications; to begin with, as associated to the Christian culture that most Americans would recognize, hell is the place for dead people. In addition, hell is 'a place of suffering and evil; the dwelling place of devils and condemned spirits; the place or state of punishment of the wicked after death'.[20]

Indeed, presenting the new device as a bomb from hell implies that Russians are doomed to the eternal fire of the Hydrogen bomb. This assumption elevates Americans to the category of divine judges capable of determining the everlasting punishment of the Russians. Indeed, all these examples can be grouped within the metaphor NUCLEAR ENERGY IS AN AWESOME ENTITY, which is rather appropriate in this context because it suggests a different meaning compared to the former stage (1945-1949). Awe can be described as:

> From its use in reference to the Divine Being this passes gradually into: Dread mingled with veneration, reverential or respectful fear; the attitude of a mind subdued to profound reverence in the presence of supreme authority, moral greatness or sublimity, or mysterious sacredness.[21]

In the previous period *awe* was portrayed as some sort of positive feeling that attracted text-receivers to accept (and love) the bomb. In the current scenario of fear and anxiety, *awe* invokes rather negative aspects. This new rhetoric orients text-receivers towards a dramatic and obscure interpretation of atomic research narratives transforming its ideological perspective. It is clear that atomic language during this stage has a dual perspective that gradually becomes embedded into a discourse of terror. Discursive strategies that aimed to terrify the adversary prevailed over any other positive aspect that the development of atomic power could provide. Certainly, the connection with *darkness*,

[20] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/85636?rskey=ta0Krz&result=1&isAdvanced=false#eid (Last time accessed 3/12/2013)
[21] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/13911?rskey=TcN5Yj&result=1#eid (Last time accessed 3/12/2013)

hell, and *disaster* had a direct relationship with death.[22] In addition, some of these metaphorical representations are related to destruction.

It is interesting to see how during the period that goes from 1949 to 1953 language has turned to the most negative aspects of nuclear energy in order to deter the enemy. In fact, deterrence combines the most spiritual power (belief) with the most material power (destruction by nuclear arms). Yet more careful examination allows us to observe that the logic of deterrence rests on confusion between both powers' (Van Belle and Claes, 1985 in Chilton 1985: 99). News discourse aided the spiritual power to create the illusion of a vast might for destruction:

(1) Announcement of the President's instruction to the Atomic Energy Commission ends the first. And doubtless the simplest phase of the argument about the world's most gigantic destructive device (2/1/50, WP)

(2) The hydrogen bomb gains its tremendous destructive force through fusion rather than fission (11/17/52, WP)

(3) Mr. Truman proclaimed a new era of destructive power (1/29/53, LAT)

(4) Eisenhower said America's enemies know that with every increase in the destructiveness of modem weapons, with every increase in the ability to place those weapons where they choose, the value of a surprise attack has gone up tremendously (12/15/53, LAT)

The concept of destruction took over the idea of constructive purposes. In this process, American text-receivers, unable to decipher propaganda, paid a high-priced toll fearing the tremendous destructive power of thermonuclear devises.

[22] According to Biedermann (1996: 169) the word hell has comes from the same Germanic root as 'Hel', which is the name of the Norse goddess of death, and 'hole', and 'hollow', and 'conceal'.

2.3. From Production to Interpretation: the Origins of 'Nuclear Anxiety'

When in August 29, 1949 Russia tested its first atomic device, a new phase in nuclear affairs was inaugurated. Certainly, during the 'Second Atomic Age' the conceptual and ideological category of nuclear energy evolved towards a model of confrontation and rivalry. Russia, which in the former period had occupied a tangential position, now had a prominent place at the center of atomic affairs. Similarly, atomic weapons, in this new context, were no longer defined in positive terms; rather they projected a negative image. The overall dynamic structure of the atomic category also underwent some changes: while in the former period the United States was represented as moving along a new path of discoveries and adventures, in this new stage, the individual adventure turned into a competition involving two agents. Americans now had to defend themselves against a terrible adversary. There was attack and counterattack, there was threat and fear of the rival's power, and above all, there was deterrence.

The type of language newspapers used to describe this second stage of the atomic age played a decisive role in the formation of public opinion. As we have seen in the previous section, with the loss of the nuclear monopoly, the conceptualization ATOMIC RESEARCH IS A NEW PATH TO DISCOVER became ATOMIC RESEARCH IS A RACE. Moreover, in this new scenario, the US was unable to contain Russia's force, which gave way to the depiction of a crude conflict between two blocs. Indeed, the conceptualization of the atomic race soon evolved into one of conflict in which the position of Russia was complicated as it passed from mere contestant in a two-player race to adversary of the *free world*. Basic conceptual metaphors such as POLITICS IS CONFLICT resulted in an

ominous stance on the part of both sides that paralleled the political and military strategies of a COLD WAR.

Having arrived upon a terrain of conflict, referential strategies were crucial to creating a perceptible image of the relationship between Russia and The United States. As Hart states, 'while intra-group relations where mostly cooperative, based on kin-selected and reciprocal altruism, inter-group relations, on the other hand, were more conflicting, based on competition over limited resources' (2010: 51). Indeed, a conceptualization based on two opposing blocs contributed to the demarcation of the in-group/out-group condition. At this level, reporters also used proximization strategies, which involve spatial representations, to connote the imminent threat of territorial invasion (Chilton, 2004; Hart, 2010). There was a polarization that moved from the spatial representation of the US vs. Russia into a wider space of West vs. East. Predicative strategies based, mainly, on topoi of danger connoting Russia and the East made it possible to infer an interpretation of these two blocs in terms of Good vs. Evil.

In order to establish these categorical definitions, media discourse needed to generate a powerful image in text-receivers' minds. Emotions are essential eliciting popular reaction, 'they are efficient, coordinated responses that help organisms to reproduce, to protect offspring, to maintain cooperative alliances, and to avoid physical threats' (Keltner et al., 2006:117). Newspapers utilized a program of emotionally heightening strategies designed to manipulate text-receivers toward sanctioned behaviors. According to Hart in his approach to Evolutionary Psychology, there are some predicational strategies based on the association of out-group with threat-connoting cues that would be used by text-producers, in ideologically constructed scenarios, to promote

emotive coercion. By using coercive strategies, speakers attempt to affect the emotions, behaviors and beliefs of the receivers (Hart, 2010: 62-63). In that sense, coercion modifies and alters the way text-receivers act (Chilton, 2004: 47). The media used strategic discourse to manipulate text-receivers toward a conceptualization of atomic affairs in terms of conflict and war, ultimately suggesting arms proliferation as the only possible alternative.

Russia's depiction as a threatening force activated certain emotions of fear and vulnerability. These emotive strategies manipulated text-receivers, increasing their willingness to accept a policy of deterrence based on the development of more powerful atomic devices. The activation of modules of fear both provokes instincts of danger-avoidance and cues text-receivers to cope with and face threats—also commonly known as the fight or flight response (Hart, 2010; Mark, 1987; Pinker, 1997). Machiavellian discourse during these years works to elicit very specific reactions. There is a propagandistic goal that attempted to turn nuclear discourse into an exercise of deterrence. This type of strategic rhetoric was designed to convince American text-receivers that a program of nuclear development was extremely necessary to maintain supremacy and control, which was achieved by means of carefully chosen emotion programs that projected cues of threat, fear, and anger in order to motivate text-receivers to accept the official position of belligerence and deterrence. As Hart states, 'emotive programs, then, may be activated by structures in strategic discourse that cause text-consumers to construct cognitive representations which associate the out-group with social or physical threat-connoting cues' (2010: 81). Data in the analysis show how the out-group was

profiled by means of powerful emotive cues of fear, such as the conceptual metaphors ATOMIC RESEARCH IS WAR or RUSSIA IS A THREAT.

The activation of modules of fear and vulnerability made it possible to consider deterrence as the only imaginable alternative. Indeed, by establishing the perspective of DETERRENCE IS COUNTERATTACK the category birthed a new conceptualization in which H-BOMB IS DETERRENCE and, consequently, ATOMIC RESEARCH IS DETERRENCE. Interestingly, the American Government did not confirm the existence of thermonuclear devices until 1954. Instead, newspapers occupy the position of official narrators defining the H-bomb.[23] The media, either under the shelter of a Government that was providing off-the-record information, or simply as the result of strong investigative journalism, offered data sufficient for the creation of a solid interpretation of the new *Hell* bomb. In fact, the image of this *unofficial* device was particular in the sense of the duality of its linguistic representations. While metaphors of pride and awe were employed to persuade American text-receivers of the wonder of the thermonuclear age, this new element was also darker and more terrifying.

In any case, the descriptions of those *hypothetical* thermonuclear devices were so obscure that—even if unintentionally—their powerful emotive impact worked to create an negative image of the entire category of atomic affairs. Newspapers employed a strategic discourse that relied profusely upon metaphors of danger—making reference to frames such as HELL or DESTRUCTION—which provoked confusion in text-receivers, who

[23] Alex Wellestein talks about the Ivy MIKE leak in his blog shedding light into the type of secrecy and political strategies behind the testing of the first thermonuclear bombs: http://nuclearsecrecy.com/blog/2012/06/13/weekly-document-ivy-mike-leak-1952/ (Last time accessed 3/1/2014)

were no longer able to distinguish between a discourse of deterrence and a discourse of terror. The intense load of emotive modules in news articles during this period generated an adverse reaction in text-receivers that interpreted this 'Second Atomic Age' as the beginning of a period of doom and hopelessness.

Polls in public opinion reflect this fear and uneasiness. For example, right at the beginning of this period, on December 2, 1949 Americans were asked the following question, '*Now that Russia has the atom bomb, do you think another is more likely or less?'* 45% of the population thought that it was more likely (Gallup Polls, 1972: 869). At this point, emotive coercion is just beginning to interfere in the way text-producers imagine atomic relationships. Less than one year later, on August 4, 1950 70% of the American population believed Russian had atomic bombs and a 66% of those that it would use them against American cities (Gallup Polls, 1972: 929). The conceptualization of the out-group as a potential threat began to be established. Indeed in September of 1950 respondents listed 'avoiding a general war, handling Russia' as the most important problem to be discussed in America (Gallup Polls, 1972: 939). Fear of all-out war increased throughout those years. In 1950, 85% of the people asked had heard or read about the H-bomb and of those, 68% believed that 'Russia would use a hydrogen bomb on the United States' (Gallup Polls, 1972: 895). This shows a latent fear that is based partly on the use of different discursive strategies, a rhetoric that surpassed the boundary of deterrence to install the anxiety of a nuclear holocaust in text-receivers.

It is possible that journalistic intentions of this period were to create a discourse of deterrence that would dissuade Russians from attack. Rather than interpreting this strategic discourse within the positive parameter of previous years, however, the

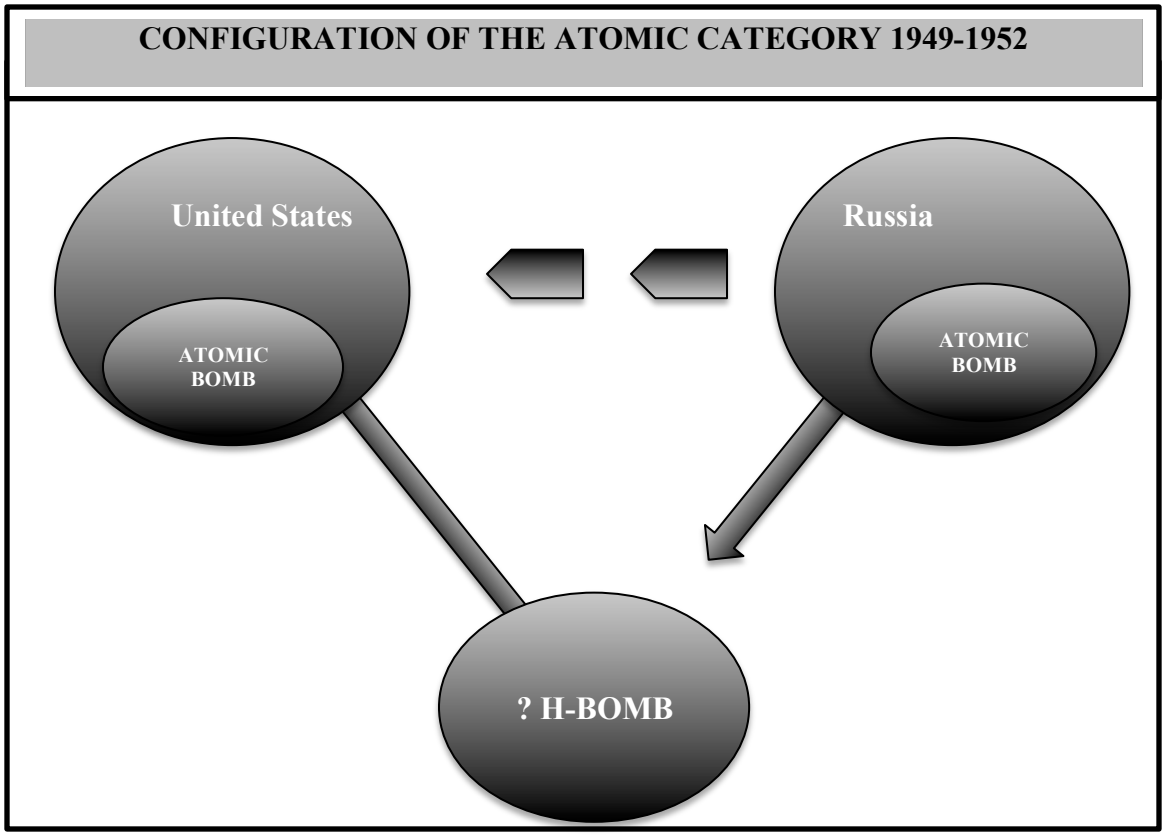
American public adopted a position of victimization and paralysis no doubt due to the psychological aspects involved in discourse interpretation. It was during this period that some began experiencing 'nuclear anxiety' for the first time.[24] Indeed, 'anxious individuals, for example, perceive more threat and risk in situations, whereas anger prone and cheerful individuals perceive less danger' (Keltner et al., 2006:126). In 1951, 56% of the population believed that the most important problem facing the country was 'war and foreign policy, Russia, threats to peace, cold war' (Gallup Polls, 1972: 1018). By 1951, 50% of respondents considered themselves not safe in the event of an atomic war. A similar percentage held that officials were not doing enough to prepare citizens in case of an atomic attack (Gallup Polls, 1972: 967-8). In February 1953, 69% of the population believed that Russia had a workable atomic bomb (Gallup Polls, 1972: 1120). That same year, 32% of the population believed there was a good chance of their communities being attacked with atom bombs.

The boom of the atomic age that was forged under the scope of victory and strength started to decline as out-groups showed their capability for gaining atomic power. The times of the 'monopoly' were over and now the darkest and most frightening side of the 'atom' prevailed in representations of the nuclear category. By way of a 'discourse of terror' ideated to dissuade Russia from developing thermonuclear bombs, the category incorporated extremely negative elements that affected the way text-receivers processed information regarding nuclear weapons. By the end of this phase, public opinion had a negative representation of the atomic universe.

As Hart (2010: 65) observes, 'It is only in getting text-consumer to accept cognitive representations as true and retain them in long-term memory that reference and

[24] Weart (2010) provides an extensive explanation of this point.

predication can achieve macro-strategies like coercion'. Data regarding public opinion show that both cognitive and emotive coercive strategies functioned to create a way to interpret and understand the new stage in atomic affairs. The most significant effect of the coercive discourse employed by newspapers during these years is the cognitive effect of adding new representations to the schema of the category for nuclear energy and nuclear affairs. The category presents two actors—both possessing atomic bombs—immersed in an aggressive conflict in an attempt to dominate the atomic landscape. The dynamic forces that move the participants are based both on a race to gain more power and on a possible belligerent encounter in which Russia is depicted as the attacking adversary. In this representation ATOMIC RESEARCH IS A RACE and ATOMIC POLICY IS A CONFLICT overlap to offer a complex framing of intense emotive force. The following figure presents the new configuration of the conceptual structure of that category:



Tensions were palpable and conflict emerged. During the period that goes from 1949 to 1953 the ideological position of supremacy and control gave way to a new situation of attack and defense in the political scene of nuclear relationships between Russia and the United States. For the Government, the core element of this period was the production of H-bombs, because as Gaddis (2005: 61) observes:

> Thermonuclear weapons, they argued, would be *psychologically*, not military, necessary. Not having them would induce panic throughout the West if the Soviet Union got them. Having them would produce reassurance and deterrence: whatever advantages might Stalin might have obtained from his atomic bomb would be canceled, and the United States would remain ahead in the nuclear arm race.

Media discourse, employing strategic discourse mainly based on lexical metaphors, referential, and predication strategies, was determined to create that new perspective of threat and achievement:

IDEOLOGICAL CATEGORY DESCRIBING 'THE ATOMIC AGE' FOR 1949-1952	
MEMBERSHIP	We are Americans, Russians are the enemy
TASK	To create the H-bomb
GOAL	To deter Russia from attacking
NORMS & VALUES	We are preserving world peace
RESOURCES	We have more power (H-bomb)
POSITION	We are (and must be) ahead of Russia in the atomic project

Table 2.4. Ideological schema of the atomic age 1949-1952

The ideological category was in fact established, and text-receivers embraced it, accepting that thermonuclear devices, despite being terrible death machines, were necessary in order to thwart the possibility of Russian attack. However, the mechanisms employed to persuade and manipulate the audience became an uncontrollable source of negative emotional cues that took a toll on the way text-receivers interpreted and understood atomic questions in general. By the end of this period public uneasiness was such that authorities had to consider a move into a safer and more positive approach to nuclear policies so as to ease fears of an atomic holocaust. When Eisenhower became president in 1953 the political scene was ready for a change. He launched a new period known as 'Atoms for Peace'.

3. FORCE DYNAMIC AND THE THREAT OF ATOMIC WAR: 1953-1962

Operation Crossroad. Bikini Atoll

'…and the faith which can bring to this world lasting peace for all nations…'
(Dwight D. Eisenhower)

3.1. Atoms for Peace and War

Certainly the dropping of the first Russian H-bomb on Aug 12, 1953 provided the finishing touch for an uneasy period of fear and uncertainty. The new president, Dwight D. Eisenhower—elected at the end of 1952—had, a priori, different plans for atomic energy. In one of his first speeches he made clear his *New Look* position regarding nuclear affairs.[1] On Dec 8, 1953, in an address to the United Nations, the president unveiled his new plan, 'Atoms for Peace'. In the speech, Eisenhower showed a determination to create a positive conceptualization of the new energy:

> The more important responsibility of this Atomic Energy Agency would be to devise methods whereby this fissionable material would be allocated to serve the peaceful pursuits of mankind. Experts would be mobilized to apply atomic energy to the needs of agriculture, medicine, and other peaceful activities. A special purpose would be to provide abundant electrical energy in the power-starved areas of the world. Thus the contributing powers would be dedicating some of their strength to serve the needs rather than the fears of mankind. (Dwight D. Eisenhower, "Atoms for Peace," 8 December 1953)

President Eisenhower proposed a new era in which atomic energy would generate prowess and supremacy. Atoms for Peace was an attempt to repair the battered image of atomic energy. However, despite initial enthusiasm, soon this period turned into 'Atoms for Peace and *War'*. As it turned out, President Eisenhower was not only interested in a policy of peaceful atomic energy. The plans of the new president indeed included an expansion of atomic research into a policy of 'massive retaliation' that would reinforce deterrence and contain the enemy.[2] His dual perspective with regards to the affairs of

[1] According to Wills (2010) Eisenhower pretended to draft a less belligerent approach to nuclear weapons.
[2] In Jan 12, 1954, General Dulles proposes the 'massive retaliation' defense policy as the alternative to Russian threat, (Gaddis, 2005).

atomic energy eclipsed the potentials of a possible discourse of peace and gave way to one of the most intense and darkest moments in the history of atomic energy.

Certainly, for the first time in history, Russia seemed to be at the head of the nuclear arms race, which occasioned an increase in rivalry and competition between the two superpowers. The old atomic race was hard-fought by the two rivals. In these years, Russian and the US underwent dozens of nuclear tests in order to improve and perfect their arsenals.[3] Among the most remarkably incidents in the story of nuclear tests, Test BRAVO, a test conducted by the United States in March 1954, triggered critical questions about nuclear tests and total annihilation. The thermonuclear detonation spread radiation miles away, poisoning the crew of a Japanese fishing boat (Gaddis, 2005: 64). Soon dread of the poisonous radiation permeated newspapers, radios, and television. This incident triggered a new perspective regarding nuclear energy in which radiation became one of the most terrifying aspects of nuclear war. Politicians worldwide became overtly aware of the dangers of an *all-out* war. Churchill himself, who had favored nuclear proliferation, claimed that 'atomic war will destroy civilization' (Gaddis, 2005: 66). Such a turn in discourse did not go unnoticed by public opinion, which began to gain a powerful voice in atomic affairs. Throughout these years, agitation and distrust led people to complain and demonstrate against nuclear tests. One of the landmarks of this dissent was the Russell-Einstein Manifesto. On June 9th, 1955 a piece of writing lambasting atomic weapons was issued by the philosopher Bertrand Russell and the scientist Albert

[3] To see the total amount of nuclear tests carried out by Russia and the United States see the website http://www.nrdc.org/nuclear/nudb/datab15.asp (Last time accessed 13/11/2013)

Einstein.[4] The manifesto was publicly endorsed by hundreds of people that foresaw in nuclear a terrible holocaust doomed to devastate mankind (Weart, 1986).

This uneasiness was mostly based on the assumption that Russia had supremacy in the nuclear arms race and the determination to attack. Indeed, the new Russian leader, Nikita Khrushchev, promoted a policy of nuclear threat and fierce competition aimed at projecting an overwhelming sense of superiority (Gaddis, 2005: 70). Even when later on it was discovered that the feared Russian arsenal was, in fact, rather unsound, the country's supremacy in the space race was undeniable.[5] On August 1957, Russia launched the first intercontinental ballistic missile; in October of the same year, they placed the first manmade satellite, Sputnik, into orbit; and in 1961 the first man.

This was a period of vicissitudes in international nuclear policy as well: in 1958 Khrushchev proclaimed a unilateral moratorium on atmospheric nuclear testing that was definitively broken when Russia exploded the '*Tsar Bomb*' on October of 1961 (Gaddis, 2005). A year later, in October 1962 the Russians deployed intermediate and medium range missiles to Cuba, and, while the crisis was solved without incident, both competitors recognized that the path they were following would lead to a situation of

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[4] The Russell-Einstein manifesto was issued in London in 1955, this is how it began:
In the tragic situation, which confronts humanity, we feel that scientists should assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction, and to discuss a resolution in the spirit of the appended draft. We are speaking on this occasion, not as members of this or that nation, continent, or creed, but as human beings, members of the species Man, whose continued existence is in doubt. The world is full of conflicts; and, overshadowing all minor conflicts, the titanic struggle between Communism and anti-Communism. Almost everybody who is politically conscious has strong feelings about one or more of these issues; but we want you, if you can, to set aside such feelings and consider yourselves only as members of a biological species which has had a remarkable history, and whose disappearance none of us can desire.
The whole manifesto can be read here: http://www.pugwash.org/about/manifesto.htm (Last time accessed 3/12/2013)
According to Weart (2010: 139) the manifesto did not only focus on abstract future dangers, but on the actual threat of the current bomb test at the time; which occasioned a powerful sense of anxiety and uneasiness.

[5] The inferiority of the Russian arsenal was discovered in various U-2w recognitions that took place during 1956-1961 (Gaddis, 2005: 74)

total annihilation (Gaddis, 2005: 78). The US, Russia, and the UK once more resumed talks that had begun in 1958 to agree on a Limited Test Ban Treaty.[6]

This period of hectic atomic tension proves to be fundamental for the understanding and interpretation of atomic discourse, because the linguistic strategies shifted as drastically as the political mood during these years: in 1953, President Eisenhower seemed optimistic about the wonders of the new energy; almost a decade after in 1962, the fears of nuclear holocaust tarnished the innocuous message of the '*too cheap to meter*'.[7]

3.1.1. Media Duality and the Uneasiness of Fear

The period going from 1953 to 1962 is relatively sensationalist. Newspapers reinforced models based on a total confrontation with two participants immersed in a fierce race for the achievement of thermonuclear supremacy. In such a hostile terrain, reporters depicted Russia as a bitter enemy determined to annihilate the human race. In addition, for the first time in the Atomic Age, radiation occupied a central position as the *invisible* enemy that could not be fought (Deepe Keever, 2004). It is difficult to imagine that institutional discourse was promoting fear, however, during these years, since billions of dollars were invested in nuclear research and the only way to sway public opinion toward the necessity of such spending was by stimulating a psychological need for the security it provided (Franklin, 1988). Newspapers, focusing on the threats and

[6] A complete account of the making of the Limited Test Ban Treaty can be found in *The National Security Archive* http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB94/ (Last time accessed 13/10/2013)
[7] A famous sentence originally pronounced by Eisenhower, repeated again and again by authorities promoting an understanding of atomic energy as an endless source of energy (Weart, 1986).

possibilities of a nuclear holocaust, attempted to convince text-receivers that arms proliferation and nuclear testing were beneficial for maintaining world peace.

Discourse during this stage gained such dark connotations that it is hard to believe that it was all based on a strategic plan of persuasion and manipulation. It is possible that the same anxiety spreading throughout the population was also invading journalists' imaginations. It is true that during the first part of this period there were clear journalistic intentions to magnify the positive perception of nuclear power. However, a pessimistic vision seized nuclear narratives, making impossible any type of enthusiastic representation of nuclear affairs. These were the darkest years in the history of atomic energy, eclipsed by the gloomy shadow of a potential atomic apocalypse.

3.2. Metaphors of Threat, Contamination, and Danger

During this phase, after a first period of euphoria and positive representation that was followed by a frantic atomic race, authorities became aware of the consequences that the handling of the destructive force of thermonuclear power could occasion. That realization provoked a change in which the idea of defense, rather than of deterrence, came to the fore. Right at the beginning of Eisenhower's presidency, there was an attempt to develop a positive understanding of atomic power. Nonetheless, the deadly potential of thermonuclear devices tipped the balance of atomic beliefs towards the darker side of the atom. In this period, a total of 248 examples were analyzed and organized as the following table shows:[8]

TOPICS AT THE GLOBAL LEVEL	***T: 249***	***%***
ATOMS FOR PEACE	37	15%
ATOMS FOR WAR	176	70%
DEFENSE	36	15%

Table 3.1. Semantic macrostructures 1953-1962

For a brief time at the beginning of this period, the most positive aspects of the atom were foregrounded. This trend follows the doctrine of the famous 'Atoms for Peace' and uses images that are represented mostly by the conceptual metaphor ATOMIC

[8] I would like to note here the relatively sparse coverage that the 'Cuban Missile Crisis' had in newspapers as a clear strategy to manage public distress. In my original search, I focused on that week—in October 1962—to see how many articles were written about this issue; surprisingly, the data were scarce and inconclusive. Certainly, the media concealed this event from public opinion; only a posteriori was this crisis narrated and explained to laypeople that probably never understood the drama of that intense week; which according to Gaddis (2005: 77) was seen by the authorities as 'the most dangerous in a long sequence of provocations'.

RESEARCH IS A PATH and ATOMIC ENERGY IS WELL-BEING (14%). However, despite this initial swerving toward the bright side of the atom, there is a clear tendency in this period to focus on nuclear threats and the consequences of an atomic attack. Numerous examples are based on the metaphor NUCLEAR ENERGY IS A THREAT (49%). Interestingly, contrary to previous stages when the attitude toward attack consisted of a solid counterattack, in the period that goes from late 1953 to 1962 the representation of defense is less active. The agents are rearranged in such a way that Americans are no longer dynamically fighting against the Russian threat. Nonetheless, this representation, based on an event schema of DEFENSE, is not prominent within the examples analyzed in this corpus (39%).

The balance is shifting towards a type of conceptualization that focuses on frames based on vulnerability and attack. Contrary to the categorization of atomic energy in former periods—when it was mostly considered a good thing—the classification became embedded within a very negative frame of death and disaster. Despite the efforts of the 'Atoms for Peace' campaign there is a move from RUSSIA IS A THREAT to NUCLEAR ENERGY IS A THREAT. The process involves a metonymic assimilation in which the fact that Russia possesses thermonuclear power is critical. Nuclear energy now is not 'American' anymore and, profaned by alien hands, what previously had been described as '*cosmic fire*' turns into a catastrophic weapon capable of annihilating all life on the planet.[9] The metaphors now employed to define nuclear energy imply the corruption of those that originally showed it in a positive light. Such a negative view created an immense sense of terror that paralyzed the American initiative to fight. While in the two previous stages, the motor schema could be applied to the entire structure of international atomic relationships, now it seems stuck in the middle of an atomic maelstrom. In this landscape,

[9] William L. Laurence in an article from Sep 1945 describes Trinity Test explosion as 'cosmic fire'.

conceptualization thus veers away from action toward protection as a defensive strategy. The following figure portrays the change in the force dynamic that represents each bloc:

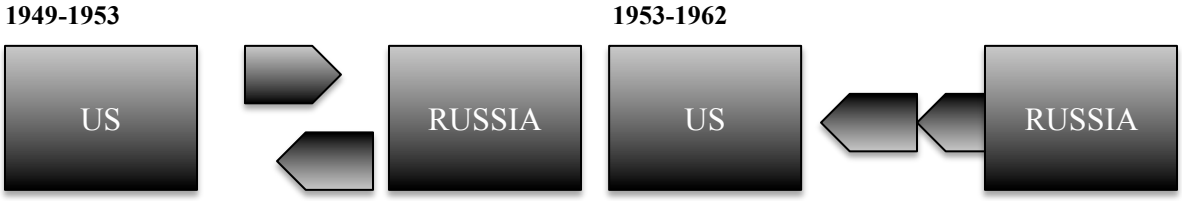

Figure 3.1. Dynamic structure of US-Russia atomic relationships

While in the former period the dynamic representation of the two superpowers suggested the existence of two agonists—the US and Russia—on the move, during this time the strength and supremacy of the US vanished. The new force dynamic model was based on an agonist—Russia—that moves and an antagonist—the US—that tries to defend itself from attack (Hart, 2010). The whole structure of this part of the category can be interpreted as a meta-proximization strategy. Actually, the lack of control over the portent of atomic power triggered a new position of PROTECTING and SHELTERING that is novel within the categorization of nuclear affairs.

At the level of local meaning, the switch of dynamic pace is also palpable. The type of linguistic strategies employed during this period imply a type of schemata grounded in ideas of control, connection, and morality. These main three thematic groups I mentioned before, *atoms for peace*, *atoms for war*, and *nuclear conflict* can be divided into more specific subcategories in which the type of conceptual representation denotes a change in the perspective adopted by nuclear ideology. The following table displays the distribution of data for each element:

GLOBAL TOPIC	CONCEPTUAL STRUCTURE	LINGUISTIC REPRESENTATION
Atoms for peace	MORALITY	The atom is represented as well-being: *Nuclear energy will prove to be more usable as a power source for raising the world's standard of living*
	CONTAINER	The economy is a building: *It is essential for building up the economic strength of the free nations*
	FREEDOM	Atomic energy is freedom: *If we mean what we say in a democracy—that man should have 'the good life'—then we must have an inescapable dependence on science or we are otherwise condemned to a slave existence*
	JOURNEY	Atomic energy is a journey: *As evidence that a turning point had been reached*
Atoms for war	CONTAINER	The US is a container, radiation is impurity: *A single H-bomb exploded close to the ground could coat an area of the size of Maryland with a potential death mantle of radioactivity*
	THREAT	The nuclear conflict is represented as a holocaust: *Can You Survive Atom Holocaust?*
	FREEDOM	Russia is represented achieving power: *The test showed important achievements of Soviet scientists and engineers*
	JOURNEY	Atoms for war is a journey: *We seem to be drifting helplessly toward disaster*
	FORCE DYNAMIC	The US-Russia relationship is a fight: *America made a blistering attack on Russia today, charging the Soviet Union with 'perfidy' and 'betrayal'*
Defense	CONSTRUCTION	The US is represented as in need of protection: *He urges a two-billion-dollar "survival shelter"*
	FORCE DYNAMIC	The US-Russia relationship is a fight: *He urged resumption of American testing to perfect our nuclear arsenal in self-defense*
	JOURNEY	Nuclear conflict is a journey: *The soviet union will continue to strive to reach agreement in the United Nations on the prohibition of atomic weapons*
	FREEDOM	Defense is freedom: *The security of the nation and of the free world*
	LINK	Control is cessation: *The peoples of the world demand cessation of tests*

Table 3.2. Conceptual representation of the global topics at the local level 1953-1962

3.2.1. Morality Metaphors: Atoms for Peace

The bright side of the atom was launched with a campaign promoted by Eisenhower at the end of 1953.[10] The President imagined that a *makeover* would be sufficient to revamp beliefs regarding the promises of atomic energy. Devised as a way to erase fears and anxiety related to the dark image of the atom, *Atoms for Peace* worked diffidently and only for a short span of time, and soon faded away. Although it occupied a brief chapter in the Atomic Age, numerous articles were published during the 1950s publicizing the wonders of atomic might. Weart (2012: 83) talks about *Atoms for Peace* and its mediatic coverage:

> The campaign taught people everywhere to believe what until then had seemed convincing only to a few elites: Eden could be reached within their lifetimes. Most other governments rushed to show that they, too, could use atomic energy for something besides destruction. The volume of magazine and book publication on civilian uses of atomic energy doubled or tripled between the five years before Eisenhower's speech and the five years after, more than any time before or since.

During the early 1950s atomic energy had deviated from an idyllic promise of gigantic magnitude into a dark element capable of dooming civilization. *Atoms for Peace* is an

[10] Atoms For Peace symbol used by the United States Atomic Energy Commission on a document cover page in 1955:

http://en.wikipedia.org/wiki/File:Atoms_For_Peace_symbol.png (Last time accessed 16/1/2014)

attempt to restore the pristine image that atomic energy once possessed. In order to do so, the language utilized by journalists to narrate *Atoms for Peace* employed journey metaphors in order to open new fruitful paths in the road towards the peaceful atom. Sometimes, allusions to the miracles of atomic energy echo the wonder of the Atomic Age. The narratives of the peaceful uses of atomic energy also include freedom as a recurrent topic. However, the vast majority of examples pertain to the domain of morality and purification. To a certain extent, the discourse of *Atoms for Peace* can be considered a rhetorical exorcism that sought to restore the purity that atomic energy had once had. The following chart shows how schemata were distributed during this period to represent *atoms for peace*:

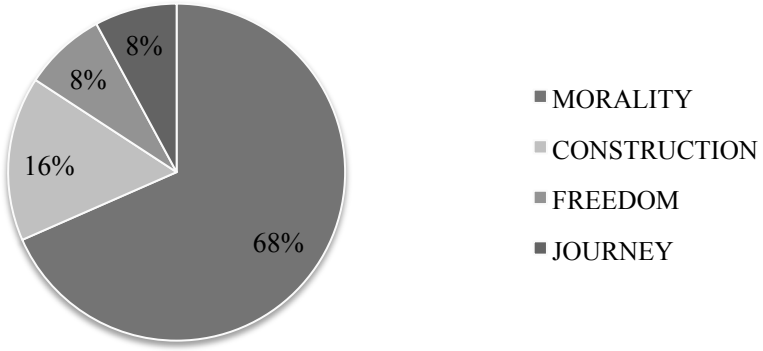

Figure 3.2. Conceptual schema for 'atoms for peace'

The Atom is an Instrument of Peace

Within the set of examples analyzed at this level, one of the most recurrent aspects becomes the description of the atom as a benefit for Americans. Upon the already established belief that atomic energy happens to be a mysterious and secret object whose possession grants freedom and power, the atom is, similarly, conceptualized in terms of

mystery and wonder. This strategy, attempting to bolster a model of pride rather than one of fear, presents the peaceful atom as a tool for unveiling *the fundamental secrets of the universe:*

(1) This remarkable new chemical compound, Lithium 6 Deuteride, has provided the answer to many a life-or-death question (4/2/54, NYT)

(2) This may well rank with one of the great understatements of history (4/2/54, NYT)

(3) The world's most powerful and most precise atomic machine for probing into the fundamental secrets of the universe is under construction at the Brookhaven National Laboratory, Upton, L. I. (11/18/56, NYT)

(4) The secret of the atoms are expected to be revealed with a clarity greater than ever before (11/18/56, NYT)

A prevailing sense of hope for a better future is implied in these examples. In fact, the basic metaphorical conceptualization ATOM IS GOOD is suggested on numerous occasions, with different orientations that focus on the advantages of a better future—based on a general conceptualization of SOURCE-PATH-GOAL in which the goal appears to be a promising *Atomic* Eden.

The conceptualization of this event in terms of ATOMS FOR PEACE IS A NEW ERA or ATOMS FOR PEACE IS MOVEMENT ALONG A NEW JOURNEY was essential to this plan in which the metaphorical structure emphasizes the notion of movement as achievement of power:

(1) Other scientists working on projects in the use of atomic energy for peaceful purposes, reported that they are making great strides in development of grains resistant to rust, smut and other diseases (4/2/54, CT)

(2) The Atomic Energy Commission told Congress today that nuclear energy was on the threshold of becoming an economic source of power (2/17/60, NYT)

(3) Yet all the instincts and traditions of the American people are not for destruction but for construction, and these instincts and traditions have prompted the United States to take the initiative in harnessing the atom for peaceful and constructive purposes

(4) As evidence that a turning point had been reached, the commission reported that two California utility companies were actively considering construction of two large atomic plants that promised to produce economically competitive, electricity. (2/17/60, NYT)

All of these examples are difficult to classify within the same schema; nonetheless, they all have in common a basic optimistic approach towards the new atomic research. Although in a variety of different ways, all of these cases imply concepts such as freedom, achievement and struggle, giving rise to a framework of interpretation that presupposes an optimistic and moral reading.

Emphasis is also placed on the economic benefits of the 'good' atom. This conceptualization is encapsulated within the American economical model represented by the metaphor ATOMIC ENERGY IS PROFIT, which, alongside the metaphor WELL-BEING IS WEALTH strengthens the idea that peaceful atomic energy offers health benefits. The meaning of profit is 'a favorable circumstance or condition; advantage, gain; a person's benefit or good'.[11] The idea of gain in this context is associated with economic growth, and in turn with morality principles, since within the American beliefs system, wealth and morality are intrinsically linked (Lakoff and Johnson, 1999: 291). Significantly effective in capitalist society, business metaphors had been previously used by the American media to express ideas about nuclear discourse. With metaphors such as ATOM IS AN IMPROVEMENT OF THE ECONOMY (GOOD BUSINESS) reporters make an incursion into a type of primary metaphorical image in which atomic energy is beneficial and pure. In many cases, atomic profit is conveyed as an improvement upon the standards of living:

[11] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/152097?rskey=XXLwzG&result=1&isAdvanced=false#eid (Last time accessed 16/6/2013)

(1) Nuclear energy will prove to be more usable as a power source for raising the world's standard of living, pioneer atomic scientist declared yesterday (2/25/55, NYT)

(2) In a dramatic sequel to his atoms for peace proposal President Eisenhower now announces plans to build and send around the world a new atom-powered merchant ship as a symbol of American determination to use the new atomic forces not only for the defense of the free world but also for the improvement of living standards everywhere (4/25/55, NYT)

(3) However, they provide the only way by which the two to three billion people of the world can possibly solve their energy needs for sustenance and a decent standard of human dignity (2/25/55, NYT)

(4) The advance in the standards of well-being of the people and the enjoyment of a fuller life through atoms for peace are all more attractive prospects (2/5/56)

Although not metaphorical *per se*, these lexical items all underlie a metaphorical contextualization in which the category is framed within the domain of economic improvement, thus engendering a metaphorical reading in which ECONOMIC IMPROVEMENT IS MORALITY. Indeed, In order to stress the profit of the peaceful atom, predication strategies are employed to inflate the numbers in a hyperbolic dance of atomic benefits:

(1) Radioactive Isotopes are yielding a total of $400,000,000 a year in savings to American industry (8/4/57, NYT)

(2) Professor Libby reported, have already led to savings to American manufacturers of about $120,000,000 a year (8/4/57, NYT)

In addition, emphasis placed on MONEY IS WELL-BEING appeared in numerous occasions to clarify that "Atoms for Peace" constituted a solid foundation for American economy. Culturally, this representation stood as a powerful instrument of persuasion given the profit-drive socio-political orientation of American culture:

(1) The American people and the Western world will get their atomic armament and their atomic power development costs all free (8/4/57, NYT)

(2) THE atom has within it a greater potential for constructive use by mankind for the enrichment of life than any other single development in the recorded history of the world (2/5/56, NYT)

(3) Professor Libby reported, have already led to savings to American manufacturers of about $120,000,000 a year (8/4/57, NYT)

(4) To achieve economically competitive nuclear power in high-cost power areas of the United States (2/17/60, NYT)

Gradually, the concept of atoms became a complex system of metaphorical thinking in which conceptual metaphors were inferred as contextual meaning oriented towards a general frame in which *atoms for peace* was interpreted not merely as an economic improvement, but as a pure act of moral, and constructive principles.

In relation to the idea of prosperity some representations recreated an atmosphere of success based on a positive lexis that reinforces the conceptualization of ATOM IS GOOD:

(1) Atom May Aid Housewife to Preserver Food (4/2/54, CT)

(2) Here is the promise of the decent and the good life for all men everywhere (2/25/55, NYT)

(3) As evidence that a turning point had been reached, the commission reported that two California utility companies were actively considering construction of two large atomic plants that promised to produce economically competitive electricity (2/17/60, NYT)

Based on the myth of a golden age of endless richness, this visualization of the *good atom* is similar to the positive representations created during the first stage of the Atomic Age, 1945-1949. Nevertheless, this new version implies a polarization between the peaceful American atom and the evil Russian one. The hope of the peaceful atom is contained within an optimistic background that includes metaphors such as PEACEFUL ATOM IS AN INSTRUMENT FOR CONSTRUCTION, which contrasts with the pessimistic view of *the bad atom* as a destroyer of worlds. The CONSTRUCTION metaphor was inherent in this

new context in which the good atom bolstered economic strength—which can also be interpreted as a moral vision of the atoms for peace project:

(1) It is essential for building up the economic strength of the free nations (4/25/55, NYT)

(2) Yet all the instincts and traditions of the American people are not for destruction but for construction, and these instincts and traditions have prompted the United States to take the initiative in harnessing the atom for peaceful and constructive purposes (4/25/55, NYT)

(3) THE atom has within it a greater potential for constructive use by mankind for the enrichment of life than any other single development in the recorded history of the world (2/5/56, NYT)

This BUILDING schema has a dual purpose: it can be perceived as a consolidation of American strength and, similarly, as a process of development that aligns with the idea of achievement. In fact, 'ideas associated with progress are evoked by the domain of homes and buildings and are based on conceptual metaphors such as WORTHWHILE ACTIVITY IS BUILDING' (Chateris-Black, 2004: 90). Both conceptualizations, in fact, are connected to a superordinate morality schema.

In fact, regarding the prevailing moral schema, a constant dichotomy based on the battle between good and evil accompanies the entire conceptualization of the peaceful atom. This morality schema presupposes that the world is at war, and the warriors are atoms—Americans (peaceful) and Russians (belligerent):

(1) Atoms for Peace Will Conquer Atoms for War (2/5/56, NYT)

(2) I have a deep and abiding faith that the atom for peace will win a decisive victory over the atom for war (2/5/56, NYT)

(3) But none of these problems is insurmountable, and a constant, informed review of the nature of the extreme choice before mankind, with patient and persistent efforts, does hold a bright hope that atoms for peace will defeat atoms for war (2/5/56, NYT)

Ironically, the morality of the peaceful atom was soon eclipsed by a discourse of terror. Soon, atoms for war would be leading the battle. In 1957, a peak in the atomic race,

some newspapers reported the failure of Eisenhower's plan. During such times of uncertainty, the drive towards the darkest atoms could not be diverted by Eisenhower's initiative. After a brief renaissance, atomic discourse returned to an eerie image of despair and destruction. The more aggressive rhetoric of the Atoms for War and gloomy imagery of nuclear holocausts, Mutual Assured Destruction, and the unstoppable spread of radiation subsumed the discourse of peace.

3.2.2. Atoms for War, Force Dynamic and the Threat Schema

Even though—to a certain extent—the policy of atoms for peace eased the tensions of the atomic conflict, the atomic race maintained its intensity for more than half of this stage. After the announcement of the first Russian H-bomb, a frantic period of nuclear tests began. This escalation of the *mad atomic race* precipitated one of the most perilous stages in the history of atomic weapons. Americans and Russians were testing new bombs almost everyday. The sense of American supremacy, however, was diminishing. At the level of conceptual representation, remarkable maneuvers took place that redefined the adversaries competing in the atomic race: America was no longer depicted as its indisputable leader as Russia came to occupy a pivotal role in thermonuclear affairs. As Jacobs (2010: 62) points out, survival narratives of this period became far more brutal than those of earlier periods. Atomic chronicles gravitated towards a fatalistic tone that betrayed vulnerability and depicted nuclear war as both inevitable and catastrophic. Journalists favored the employment of the threat schema. However, just as the new atomic order begins taking shape in simple terms of morality and immorality, it is again complicated by the emergence of a peril significantly more abstract than that of Russia itself, and yet representative of its sedition: radiation, *the*

invisible enemy. The following chart presents the distribution of data regarding the conceptual schemata of atoms for war:

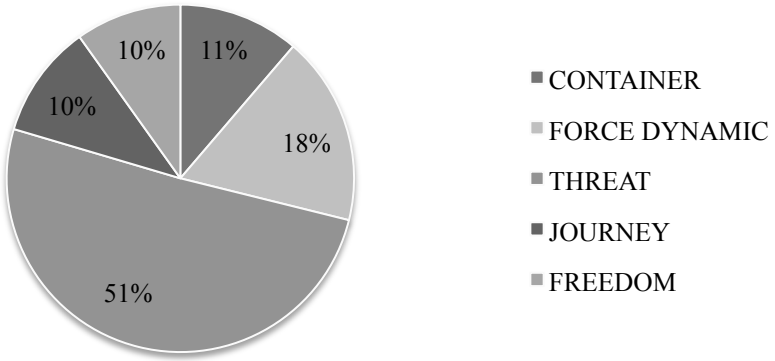

Figure 3.3. Conceptual structures for 'atoms for war'

Russia is a Threat

The reasons for the prominence of the nuclear threat in the configuration of the atomic category during these days are based on recursive representations of Russia as a formidable rival. Early in this period, newspapers began to point out, not without alarm, Russia's atomic *muscle*. News articles focused mainly on explaining how Russia had managed to be successful in the production of hydrogen bombs. Here, the conceptual metaphor POWER IS MORE assumed new connotations of fear and uncertainty thanks to new power clearly at Russia's disposal. Lexical characterization aids the conceptualization of Russia as a potential threat for the US. The following examples show how frequent it was for journalists to magnify Russian achievements:

(1) The Soviet Union confirmed today that it had recently exploded its "most powerful" hydrogen weapon, embodying "important new achievements" of Soviet scientists (11/27/55, NYT)

(2) Russia announced today it has set off "the most powerful of all" hydrogen bomb explosions (11/27/55, LAT)

(3) Most Powerful of Red Tests (11/27/55, CT)

In this new context of susceptibility, the conceptualization POWER IS MORE emerged as a threat. Considering that the notion of achievement had been always associated with the conception of freedom (Lakoff, 2006), in a situation in which there are two opposing blocs, Russia's gain of nuclear freedom is proportional to its loss by the US. Consequently, in this context, conceptual strategies used previously to positively represent the atomic age now produce the opposite effect. One good example can be found in the usage of development, which now shows Russia ahead and in control in the nuclear arms race:

(1) The latest statement appeared to be designed to underline references to "new types" of bombs and "new achievements" by Soviet scientists and engineers (11/27/55, NYT)

(2) The tests have fully confirmed the pertinent scientific and technical calculation showing the new and important achievements of soviet scientists and engineers (11/27/55, CT)

(3) The Soviet announcement said the Thursday test, together with that of last Friday, previously announced by the President, "as well' as other tests impending are for the improvement of nuclear weapons and the evolving of new types for the armament of various branches of the armed forces (9/1/56, WP)

(4) "The Soviet Union's program of testing is progressing rapidly," the note said, suggesting that extensive secret preparations for test resumption were undertaken during a major portion of this year's session of the Geneva conference." (9/14/61, WP)

In these examples journalists exploit the idea of reaching a desired destination, as proposed by Lakoff (2006: 29), in order to emphasize the fact that Russia's achievement of power is an imminent threat to the US. Based on the essential assumption FREEDOM IS

ACHIEVEMENT, linguistic strategies once used to project a positive representation of American freedom now perform a cautionary function diametrically opposed to their original meaning. The result is an inversion of the roles in which Russia gains agentivity and competence to control the situation. Discursive strategies emphasize the dynamism of a Russia constantly on the move:

(1) In this field presumably were meant to show the Soviet Union was not standing still in developing nuclear weapons despite its frequent demands that they be unconditionally prohibited (11/27/55, NYT)

(2) Mr. Eisenhower said that it is notable that although Soviet diplomats throughout the world talk about the possibility or plans for abolishing the atom weapon from the arsenals of the world, that they go right ahead without prior announcement and with wartime secrecy (9/1/56, WP)

(3) The Russian premier apparently has decided to intensify the Kremlin's aggressive drive to communize the world (9/1/61, CT)

(4) Officials believe that the Soviet move to put ballistic missiles into Cuba can be explained almost entirely on military grounds (10/27/62, NYT)

Based on the metaphor ACTION IS MOVEMENT, these lexical units facilitate an interpretation of Russia as an approaching threat (Hart, 2010). Indeed, when in 1961 Russia decided to tests nuclear weapons again, the affair was mostly represented by means of metaphors of movement:

(1) The Soviet Government's decision to resume nuclear weapons testing presents a hazard to every human being throughout the world by increasing the dangers of nuclear fall-out (8/31/61, NYT)

(2) President Kennedy today accused Russia of atomic blackmail and terrorism in abruptly deciding to resume nuclear weapons testing (9/1/61, CT)

(3) United States must resume atmospheric tests in order to keep pace with the rapidity of the Soviet test series (10/15/61, NYT)

(4) The Soviet government announced last Wednesday that it had decided to resume nuclear weapons testing (9/5/61, LAT)

To resume is 'to reassume, reappropriate, or take back (something lost, given up, or discarded)'.[12] The fact that Russia was resuming nuclear tests, after a unilateral moratorium of approximately two years, implied that it was taking back its position of aggression, a move which would replace the idea of atoms for peace with that of atoms for war. The complexity of this model implies the existence of morality as well as force dynamic schemata that structure atomic conflict within a web of presuppositions in which America is no longer an active participant but a victim. These discursive vicissitudes led to an alarmist tone imbued with a hopeless sense of vulnerability.

Radiation is Impurity

The sense of vulnerability was in large part due to the threat of radiation. Jacobs (2010: 32) claims that 'Bravo test put fallout on the map, and in the years immediately after the tests thousands of articles a year would appear with the word *fallout* in the title'. The incident of the *Lucky Dragon* took place in 1954, right in the middle of a dramatic moment in which America was already resigned to the fact that it was no longer dominating the nuclear sphere. For the first time in the atomic age, Americans accepted that the prevailing supremacy of former periods had been replaced by a position of vulnerability.

While radiation had been mostly ignored as a topic within atomic discourse for almost a decade, after the BRAVO test and the consecutive events, newspapers and magazines developed a growing interest in the menace of fallout.[13] During these years,

[12] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/164079?rskey=wHST85&result=2&isAdvanced=false#eid (Last time accessed 16/6/2013)

[13] This is, for example, a poster from 1958 released by the department of Civil Defence:

indeed, radiation occupied a fundamental position within atomic discourse. The entire atomic universe would be restructured around the terrible consequences of this dangerous atomic residue. The data show overwhelming evidence of radiation's new prominence within the nuclear domain: out of the 248 samples studied for this section of the corpus, 71 cases are directly related to the definition and explanation of fall-out.

The conceptual structure of radiation and its implications implied a contextualization in which atomic discourse and its ideological orientation proved to be fundamental. Without that context, in which Russia was an approaching threat—based upon proximization strategies, as well as force dynamic schemata—the conclusions would have not be the same. Radiation represented a metonymic categorization in which the enemy's advances result in a corruption of the atomic *atmosphere* that existed prior to the Russian threat.[14] The polar opposition of the US and Russia extended into their atomic products:

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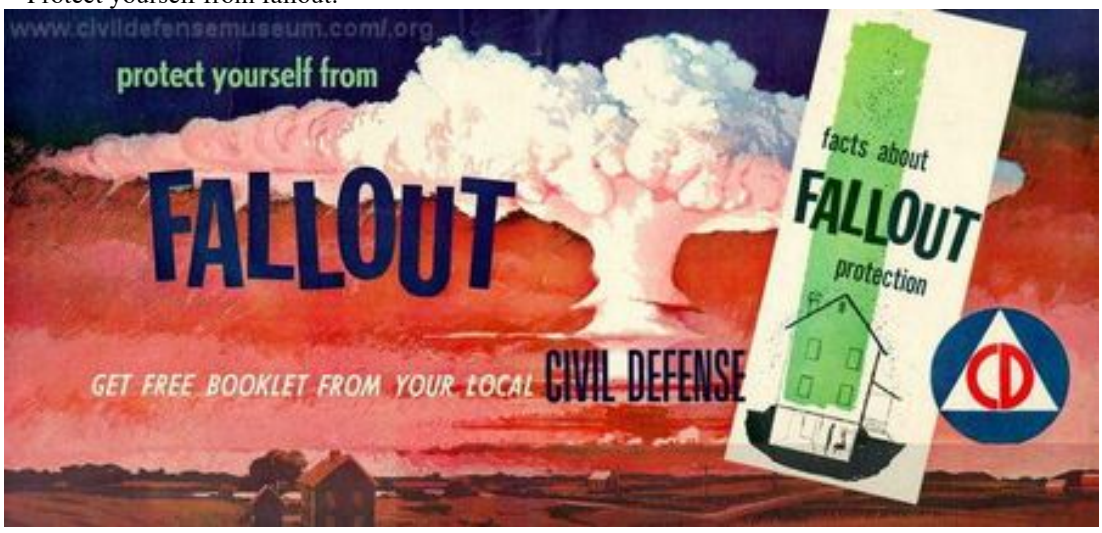
[13] Protect yourself from fallout:



[14] As Ringstad observes: This perception of fallout as a mere "inconvenience" persisted until March 1954, when a U.S. hydrogen bomb test greatly exceeded its expected power, contaminating a vast swath of the Pacific Ocean and exposing to radiation native islanders as well as the crew of a Japanese fishing boat (2012: 96)

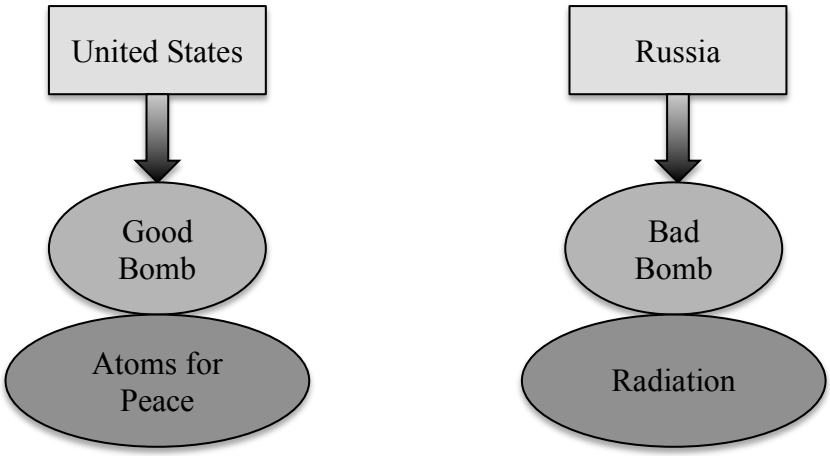


Figure 3.4. Basic representation of Good (US) vs. Bad (Russia)

Certainly, radiation is one of the most powerful icons of the nuclear age, as Jacob observes (2010: 29), especially during this hectic stage of constant atmospheric testing. Actually, the transformation of the conceptual model of radiation emerged as a symbolic metamorphosis that metonymically stands for the entire nuclear category. For example, Weart (2012: 15) points out the fact that:

> The idea of an individual meddling with dangerous power was far from new. The popular stereotype had an ancestry reaching back through medieval legends of the wizard or magician to prehistoric shamans. Such an individual might release pestilence, demons, and other evils, as witches did, or might simply propagate heretical ideas, as some protoscientists in fact did. People have always feared that an overweening individual, through evil thoughts or magical acts, might contaminate neighbors or the entire community.

In the beginning, radiation was born as something mysterious and unknown, for many years it was thought to be science's answer to the myth of the fountain of youth or even the philosopher's stone.[15] With the loss of the American monopoly, the original

[15] Weart (2012: 22) largely explains how during the first years of the history of atomic energy radiation was considered as the authentic 'Philosopher' stone'.

magnificence of atomic achievement was subsumed by the terrifying threat of radiation transmuted into waste. Radiation constitutes the epitome of nuclear ideology after the loss of the American nuclear empire. A risk, as Weart (2012: 115) claims,

> Is likely to be feared if it is largely unknown–not only invisible, but something new, outside normal experience, mysterious. A risk also seems magnified if it has elements evoking dread: something bearing a stigma of horrid associations, something with a potential for unbounded catastrophe. Adding to this are social elements: a risk is more dreaded if it is unjust because (unlike, for example, a powerful medicine) it can harm individuals who did not volunteer for it and can get no benefits, or if it can harm future generations, or if it is uncontrollable or under the control of organizations that seem untrustworthy.

Radiation became an inherent part of enemy domain; a byproduct that represented all the fears incarnated in an invisible and uncontrollable threat. Radiation, as the product of Russia's immoral acts, was perceived as corruption. In almost any human culture, the violation of nature, and all forbidden acts, are identified with contamination. This corruption violates the correct order of things, which is immediately interpreted as dangerous act (Weart, 2012: 99).

During this time, Russia officially escaped any semblance of American control. It was thus the most propitious moment to shape a dramatic definition of radiation. By achieving atomic power, Russia had committed a violation of nature that threatened American supremacy. On a basic level, radiation was presented as simply a dangerous element. As a derivative of the Russian menace, however, radiation was a frightening (and lethal) threat. In this phase, lexical selection proved fundamental in order to set the foundations of the new conceptual organization of the threat:

(1) Radioactivity 'has highlighted publicly for the' first time one of the continuing mysteries, and quite possibly one of the growing dangers, of the atomic age (11/8/54, NYT)

(2) Unless we are prepared to meet this awesome radioactive threat the military may well have little left to defend (2/11/55, WP)

(3) There was sufficient radioactivity in a downwind belt about 140 miles in length and of varying width up to twenty miles to have seriously threatened the lives of nearly all persons in the area who did not take protective measures (2/16/55, NYT)

(4) The hazard of local radiation has been fairly well delineated (5/22/59, LAT)

Within this representation, Russia's prominence, and by extension, the power of radiation and its capability to harm *the free world,* is significant. The process of victimization increased notably in the presence of this *invisible enemy*. As a harbinger of doom falling from the skies, radiation represents the quintessence of nuclear immorality: a literal and figurative violation of nature's order.

It is during these years that the term 'fallout' became a popular way to talk about the radioactive emissions produced by atomic detonations:[16]

(1) Fallout in dangerous amounts may spread downwind from the H-bomb burst for distances of 50 to 100 miles, depending on wind speed aloft (2/8/55, LAT)

(2) Fallout Produced Now Will Shorten Lives in Future, Unanimous View (1/5/57, WP)

(3) ATOM FALLOUT PERILS FUTURE, PAULING WARNS (6/3/57, CT)

(4) Atom Fallout on U.S. Said to Be Greatest (5/22/59, LAT)

In these examples, fallout is not a metaphor itself, but opens up a contextual meaning related to the metaphorical representation ATOMIC ENERGY IS POLLUTION. Fallout can be defined as 'radioactive refuse of a nuclear bomb explosion; the process of deposition of such refuse'.[17] What underlies this representation is a complex network of

[16] For a detailed account of radiation cover up, see Deepe Keever (2004).
[17] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/67869?rskey=ZI1cBe&result=3&isAdvanced=false#eid (Last time accessed 16/6/2013)

meaning intertwined to create a vision of pollution.[18] The external world remains clean until the atomic bombs fall—more specifically radiation falls out over the '*free people of the world*'. As Weart (2012: 116) states, 'fallout was well suited to induce a lingering anxiety, as psychologists since Freud have defined the emotion: something that rests upon helplessness and uncertainty, on the feeling that a threat cannot be escaped or perhaps even comprehended before is too late'. At the linguistic level, the fact that the term is based on a phrasal verb that has connotations of downward movement (to fall) and out (in all directions) provides radiation with a dynamic sense of uncertainty regarding the *where* and *how* of radioactive fallout. Radiation thus becomes an (uncontrollable) moving element:

(1) Fallout in dangerous amounts may spread downwind from the H-bomb burst for distances of 50 to 100 miles, depending on wind speed aloft (2/8/55, LAT)

(2) His article is the first published analysis on fall-out, the downward spiral of wind sprays deathly radioactive dust sucked up earlier from explosions of the H-bomb (2/11/55, WP)

(3) Most debris would fall back to earth promptly but the lighter particles, made radioactive by the explosion, would drift off in a deadly dust cloud (2/11/55, LAT)

(4) Other fears continue to disturb the world as fallout from recent soviet nuclear tests circle the globe (9/14/61, WP)

All these examples present verbs of movement and expansion, which—associated to the general conceptualization of fall-out—reinforced the interpretative frame in which Americans were depicted as a vulnerable target and radiation as another component of Russian attack. The consequences of that assault were always dramatically depicted. Radiation provided a new face for nuclear fear founded on a strong sense of corruption implicit in its representation. This cleverly employed frame expands in order to deliver a

[18] The Historical Thesaurus of the OED explains 'fallout' as the external world > the living world > cleanness > dirtiness > pollution or defilement > environmental pollution.

powerful image of vulnerability and threat, and more importantly, of immorality. The US, presented as a victim, suffers the fall-out without being able to counterattack. Russia, an immoral enemy, plans a drive to poison the world. As Weart (2012: 59) observes, the effects of this type of metaphorical thinking are fundamentally disturbing:

> The linked ideas of poison and disease were viscerally disturbing, mobilizing primitive brain mechanisms. The basic emotion of disgust, and the gut feeling of nausea that comes with it, probably originated as organisms evolved to reject poisons and avoid disease. One of the main brain regions where disgust registers (the anterior insular cortex) is activated by bitter tastes and revolting smells, but also by disturbing pictures-like the photographs that were circulating of disfigured Hiroshima victims.

The idea of meteorological change emerged as a powerful carrier of the danger of contamination. The data analyzed show numerous cases in which elements from the domain of radiation are related to weather conditions, such as rains and clouds. Indeed, during this time, the most prominent conceptualization of radiation was RADIATION IS A CLOUD:

(1) Lapp, a developer of the first atomic bomb, declared that people in the shadow of the atomic cloud can't run away for it (2/11/55, LAT)

(2) Describes H-Bomb's Cloud of Death (2/11/55, CT)

(3) The nuclear cloud from the first of the new soviet tests has circled the globe and is back over the soviet union (9/14/61, WP)

(4) With each explosion, invisible particles of radioactive byproducts–such as the long-lived radioisotopes strontium-90 and; cosium-1ST and the short-lived strontium-89 and iodine-131–are shot forth from the mushroom cloud (10/15/61, NYT)

As previously mentioned, the notion of cloud that drifts around without a particular route creates an atmosphere of uncertainty that supports the ideological expectations of the representation of this event. Moreover, the concept of cloud is associated with both darkness and pollution, particularly in the context of atmospheric contaminations. Accordingly, a cloud casts a shadow that covers the bright

American/Western horizon and opens a new way of looking at nuclear energy from a rather adverse perspective. As a result of a cloudy sky one of the most feared events turned out to be radioactive rain:

(1) We have had reports since the world's nuclear experiments started of so-called radioactive-rain, in Chicago, Troy, and elsewhere, of radioactive hailstones in Washington, and so on (11/8/54, NYT)

(2) A cloud of atomic dust rises high above and gradually rains down over a huge elliptical area (2/11/55, WP)

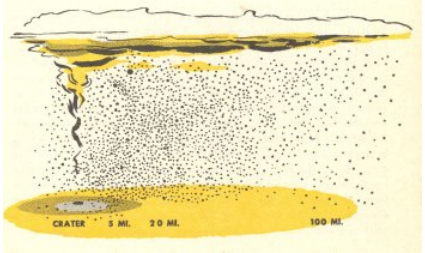
(3) However, rainfall carrying the radio strontium down to earth may deposit it in the soil, where it can, be taken up, in part, by plants and incorporated into plant tissues. Later to be eaten by humans or by grazing animals which, in turn, provide food for humans (2/16/55, NYT)

While in many cultures rain can be seen as a purifier, it can also be interpreted as a life-destroyer.[19] In this context rain was clearly associated with contamination.[20] Weather images were employed to establish a powerful sense of susceptibility to an attack that comes from the sky with the uncontrollable inevitability of a meteorological event.

In fact, there are different elements associated with contamination/impurity in the definition of radiation. For example, on many occasions radiation is defined as debris: 'the remains of anything broken down or destroyed; ruins, wreck'.[21] By means of a metonymic process where the part (debris) stands for the whole (radiation) journalists

[19] http://www.umich.edu/~umfandsf/symbolismproject/symbolism.html/R/rain.html (Last time accessed 19/1/2014)

[20] The graphic representation of radioactive rain in the Civil Defense pamphlet *Fallout Protection*:



Source: http://www.rdrop.com/~jsexton/cd/fallout/ (Last time accessed 19/1/2014)

[21] http://www.oed.com/view/Entry/47932?redirectedFrom=debris#eid (Last time accessed 16/6/2013)

bolstered not only the idea of contamination but also of destruction. As a rejected element, radioactive debris was presented as drifting, falling back, shoot off, or spread—all verbs that imply uncontrolled movement:

(1) Most debris would fall back to earth promptly but the lighter particles, made radioactive by the explosion, would drift off in a deadly dust cloud (2/11/55, LAT)

(2) Most of this debris would fall back to earth promptly, but the lighter particles, made radioactive by the explosion would drift off in a deadly cloud (2/11/55, CT)

(3) If the explosion is near the ground, a cloud of pulverized earth and rock rises with this dust. This debris shoots off atomic rays (1/6/57, WP)

(4) Mr. Kennedy is said to feel a ban on atomic blasts that spread potentially deadly fallout is essential to humanity (4/6/59, LAT)

This type of conceptualization facilitated the comprehension of radiation in not only metaphorically but also based on a movement schema that implies proximization strategies in which radiation is an approaching and uncontrollable threat. As Cap (2013: 294) states, proximization 'accounting for the symbolic construal of relations between entities within the Discourse Space'; in this context the American space is vulnerable, both literally speaking—endangered by fall-out, but also at the level of the symbolic construal of the relationship between Russia and the US. The type of representation reinforces emotive coertion and a negative construal of the out-group member, which in this case is represented by radiation.

Radiation is always portrayed in a rather negative way. Another good example is the recurrent use of the word dust to qualify fall-out. Dust is 'earth or other solid matter in a minute and fine state of subdivision, so that the particles are small and light enough to be easily raised and carried in a cloud by the wind'.[22]

[22] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/58683?rskey=7ovHEp&result=1&isAdvanced=false#eid (Last time accessed 19/1/2014)

(1) Most debris would fall back to earth promptly but the lighter particles, made radioactive by the explosion, would drift off in a deadly dust cloud (2/11/55, LAT)

(2) If a man should stand erect in the center of a field, some light from all the bulbs or some illumination of radioactive rays from all the dust would fall on him (2/11/55, CT)

(3) An immense increase in tests would add to the total atomic dust aloft and an occasional heavy fallout might occur (1/6/57, WP)

(4) Thus, when the present atmospheric burden of dust settles out in two or three more years, the levels of fallout will double even if no further testing occurs (1/10/60, NYT)

One more time, dust as a penetrating agent, minuscule and noxious pervaded as the approaching element that violated American space. In these examples, dust is equated to contamination. The fact that radiation is impure evokes images of immorality that are extended into the condition of Russian tests.

In the escalation toward the gloomier side of the atom, contamination extends its domains within a new frame in which radiation is understood as poison. As a partial synonym of contamination, poison presents a higher degree of alarm. Understanding radiation as a poison, while not a metaphorical process in itself, provides a metaphorical context in which radiation acquires a certain status as violating agent. When a poisoning occurs, the boundaries between the air, where pollution takes place, and the human body are destroyed. Within this conceptualization we can find primary metaphors such as THE BODY IS A CONTAINER or THE UNITED STATES IS A CONTAINER vulnerable to radioactive penetration:

(1) California has scooped the Federal government by publishing details of the H-bomb's vast power to kill, destroy and poison (LAT, 2/8/55)

(2) The H-bomb would leave those homes and factories still standing uninhabitable for months, steeped in radioactive poison (2/11/55, WP)

(3) Neither the United States nor Russia has made clear whether they claim to have around a method of reducing world-wide radioactive fallout that poisons the atmosphere over a period of years (9/1/56, WP)

(4) Atmospheric nuclear shot normally cause diffusion of poisonous radioactive materials, the chief reason given in the US-British proposal for a ban on atmospheric explosions (LAT, 9/5/61)

Within the domain of poisonous substances, a key characterization of radiation as poison is portrayed by lexical selections such as the noun *dose* to refer to an amount of radiation. According to the Oxford English Dictionary, a dose is 'a definite quantity of a medicine or drug given or prescribed to be given at one time'.[23] The use of the noun dose in this context is metaphorical since it implies a tension between the literal meaning of a drug prescribed and a dose of radiation. However, the metaphorical tension takes place at the conceptual level in a reading that implies that radiation is a poison:

(1) Lapp said that if a person tries to flee on foot from an atomic dust cloud less than a day old, he would receive a dose of radiation twice the amount necessary to kill him (2/11/55, LAT)

(2) A panel of the country's top geneticists was unanimous yesterday in telling Congress that radiation, no matter how small the dose, endangers future generations of mankind (1/5/57, WP)

(3) There is no disagreement about the dangers of this kind of fallout: the kind that occurs within a relatively short distance of an atomic blast and that delivers overwhelming, massive, lethal doses of radiation (1/10/60, NYT)

Media discourse appealed to a metonym in which Strontium-90 stood for radiation. The name itself reminded text-receivers of a chemical compound, since poisons—or drugs—normally consist of chemicals. It is not strange, then, to find a

[23] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/56940?rskey=4TOUP9&result=1&isAdvanced=false#eid
(Last time accessed 19/1/2014)

further conceptualization in which Strontium-90 was assumed to be that deadly element that was poisoning American people:

(1) Two fallout ingredients to produce dangerous internal radiation effects: strontium-90, a radioisotope similar to calcium; and radioiodine-131 (2/16/55, WP)

(2) The specter of a new enemy of mankind: Stronium-90, seemed near and forbidding (1/6/57, NYT)

(3) Stronium-90 material which accumulates on the ground and then is absorbed into the chain food (4/6/59, LAT)

(4) The concentration of radioactive Stronium-90 on the surface of the united states is greater than in any other area of the world (5/22/59, LAT)

But while all these previous examples set a landscape in which radiation was metaphorically described as pollution or even poison, there are more explicit examples in which radiation becomes associated with sickness—which is also linked to moral qualities (Chilton 1996: 145). Radiation, which in previous stages had been considered a miracle, is now perceived to epitomize death and disease, as these examples show:

(1) We must face the possibility, he said, that repeated atomic explosions will lead to a degree of general radioactivity which no one can tolerate or escape (9/2/54, NYT)

(2) Death would result from human exposure to such high levels [of radiation] (2/6/55, NYT)

(3) If you receive enough Strontium-90, cancer of the bone can develop (1/6/57, WP)

(4) That radiation in relatively small amounts can cause cancer and leukemia (6/3/57, CT)

The connection between radiation and disease had enormous implications in terms for the sense of hopelessness pervading the US consciousness at the time. As Weart (2012:101) states, 'the symbolism of cancer coincidentally reinforced the idea that nuclear weapons meant odious violation of the proper order of things'. Radiation, by introducing itself into human cells and altering their actual nature, violates the basic principles of creation. Indeed, one of the major concerns was genetic mutations that could

transform mankind into a horrendous creature. Strategic discourse commonly presents these types of implications based on death and disease, since 'life and death provide a very basic scale for evaluation—along with other paired dualities such as day and night, good and evil, sickness and health; they are mythic archetypes that evaluate human experience as either positive or negative' (Chateris-Black, 2011:187).

By this period, more and more concerns had emerged regarding the possible genetic mutations to which radiation poisoning could subject people. The idea of mutation transported the *invisible* element into a domain of the fantastic and grotesque. Some of the examples connect radiation with mutation, which cannot be claimed to be metaphorical at the local level, but opens frames in which radiation is related to the alteration of the natural order:

(1) Mutations From Atomic Radiation (2/6/55, NYT)

(2) The genetic hazards of radiation in man based on the fruit fly mutations were revised in the light of this new knowledge (2/6/55, NYT)

(3) In thirty years radiation would cause 1,800 deleterious human mutations (2/6/55, NYT)

(4) The number of mutations on hereditary genes is proportional to the amount of radiation received (1/5/57, WP)

Once more, we see how nuclear narratives of this period placed a strong emphasis on the duality of a moral America versus an immoral Russia. A mutation is 'the action or process of changing; alteration or change in form, qualities, etc.'.[24] Based upon Douglas' (1966: 160) assumption that impurity is based on alteration of the natural order, radiation's potential to alter life marks it as an immoral agent. The idea of genetic alteration as an affront to God himself is somewhat common during this period.

[24] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/124296?redirectedFrom=mutation#eid (Last time accessed 19/1/2014)

Compared to those images of American scientists as *creators of life* that emerged during the first period of the Atomic Age; Russian scientists are perceived as mad doctors *altering* life. So as to consolidate this perception, journalists made prolific use of the concept of genetic mutation during this stage:

(1) As examples of possible scientific discoveries, "almost as grim as genetic deterioration in a radioactive world", he cited drugs or systems of education that would make us all do as we are told, producing radical conversions to a new system of belief (9/2/54, NYT)

(2) One spokesman said there was no one "estimate," but that many researchers had come to individual conclusions about the genetic hazards of radiation (2/6/55, NYT)

(3) Strauss said "there is a rather wide range of admissible opinion on how radiation affects the genes in human reproduction (2/16/55, WP)

(4) Fallout from nuclear tests will cause that 200,000 children in each of the next 20 generations to be mentally or physically defective (6/3/57, CT)

Radiation, as a metonymy of the Russian enemy, played an essential role in the re-organization of the nuclear category. In the face of this threat, the US retreated from active fighting to a more conservative position. The schema of FIGHT was modified by the enemy's invisibility and ability to *fall-out*. Symbolically, the corruption accompanying radiation constituted a powerful element for the state of the affairs in the atomic 'race'. All aspects related to radiation were extremely negative and threatening, and this was projected from the part (radiation) to the whole (Russia). In fact, Trim (2011:143) argues that 'disease and infection are used in war-reporting contexts and could be incorporated into a general ENEMY= DISEASE conceptual metaphor'. There is a reinforcement of the dichotomy good vs. bad since, as Chateris-Black (2011: 180) observes:

> It is the underlying bodily experience of health and illness—rooted in the deeper biological facts of life and death—that provide the potential for health metaphors to be persuasive because they automatically imply that anyone who is seeking to restore health has the right intentions and is thinking right.

The symbolic power of images such as pollution, poisoning, or mutation expedited a transcendent interpretation of Russian's radiation as an immoral violation of nature, based on the activation of complex frames of religiousness and myth. The alteration of the natural order is definitely one fundamental part of the conceptual restructuring of the atomic category. Lexical selection is deliberately inclined toward the representation of radiation as directly related to an act of sin. Something sinful is necessarily something impure, indeed, in this new landscape, pollution is not only a physical contamination, but also a moral one (Trim, 2011: 142).

The Atomic Holocaust

Based on the dangers of radiation and the unstoppable Russian might, newspapers printed rivers of ink portraying the imminent threat of an atomic war and overflowing with the fears of fallout and oblivion. Bombs are no longer associated with progress, supremacy and power. Instead, thermonuclear bombs turned out to be instruments of death and destruction:

(1) A war that probably would end in total destruction (9/2/54, NYT)

(2) U. S. H-BOMB TEST PUT LETHAL ZONE AT 7,000 SQ. MILES (2/16/55, NYT)

(3) Defense study reporting among other things that H-bomb fallout can spread death and sickness for hundreds of miles beyond the super weapon's explosive reach (2/8/55, LAT)

(4) No human beings should be sacrificed for protecting a program of destruction (6/3/57, CT)

A blend of ATOMIC RESEARCH IS WAR and H-BOMB IS DEATH depicted a terrifying image of immense emotional impact. Newscasters during this period began zeroing in on the implications of a Russian thermonuclear device—all out nuclear war:

(1) DOOM OF MANKIND SEEN IN ATOM WAR (9/2/54, NYT)

(2) A full-fledged nuclear war would result in "the cataclysmic ruination of humanity in general" (1/5/57, WP)

(3) Fallout from the cold-war testing of nuclear weapons is only a symbol of the real threat that concerns everyone the threat of war itself (1/10/60, NYT)

(4) SCIENTISTS WARN OF NUCLEAR WAR (7/16/60, LAT)

As Chilton writes (1996: 139), the ARGUMENT IS WAR metaphor is used extensively during this period. Indeed, militant attitudes are attributed to Russia throughout the text in such a way that it becomes impossible for the receiver to discern between metaphorical representation and actual military intentions. Chilton observes that while nuclear discourse draws profusely on metaphors of warfare, it does not necessarily imply an intention to wage war. However, an extremely pessimistic mood delivered a constant concern about existence and the idea of survival. Implicit in survival, text-readers encounter the notion of moving or not moving along the path of life. Based on a primary conceptualization, the embodied experience of not moving along a path, not being able to escape, is dramatically applied to produce the effect of helplessness. This representation became decisive in the change of thematic perspective within the atomic category:

(1) We must face the possibility, he said, that repeated atomic explosions will lead to a degree of general radioactivity which no one can tolerate or escape (9/2/54, NYT)

(2) One cannot escape the conclusion that many metropolitan areas will become a kind of no-man's lands (9/2/54, NYT)

(3) Lapp, a developer of the first atomic bomb, declared that people in the shadow of the atomic cloud can't run away for it (2/11/55, LAT)

(4) We cannot escape present reality (12/9/62, LAT)

These metaphors portray images of stasis and stagnancy that obstructs any American action and paralyzes the dynamic structure of previous force dynamic models. In former periods the basic conceptual representation of American people was grounded in the

cultural schema of freedom as an ability to move, progress, and achieve nuclear power. At this decisive point, when Russia and its radioactive byproduct were represented as an oncoming threat, the fact that Americans are trapped denoted a change in mood and strategy towards nuclear affairs. This progressive process reached an algid point precisely during this time when the two superpowers were equally endowed with thermonuclear power that, in case of being used, would be inescapable.

In fact, in this hostile landscape, fear proliferated as the preferred narrative style. The fact that Americans cannot escape a thermonuclear attack is intrinsically associated with survival, which is now put into question:

(1) Can You Survive Atom Holocaust? (5/13/60, LAT)

(2) Straus warns that human survival might depend on prompt protective steps (2/16/55, NYT)

(3) The threat of fallout in nuclear war is the greatest threat to man's survival since the plagues of medieval times (1/10/60, NYT)

(4) One of England's leading scientists said today that the human race could not survive if more than a few thousand large atomic bombs were exploded, regardless of where they fell (9/2/54, LAT)

The idea of survival implies 'to continue to live after the death of another, or after the end or cessation of some thing or condition or the occurrence of some event'.[25] The fact that journalists considered death as part of the most current nuclear events, symbolized the loss of the prevalence of American nuclear power. The force dynamic models employed formerly to represent the atomic race, became inverted at the end of this period to portrayed a rather deteriorate image of American, vulnerable now and susceptible of attack. Fearing the rage of the enemy releasing thermonuclear devised upon American land, an attack would provoke a hellfire of destruction.

[25] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/195109?redirectedFrom=survive#eid (Last time accessed 19/1/2014)

During this time, a new labeling emerged to refer to a potential nuclear disaster: the atomic holocaust. Within the metaphorical context ATOMIC WAR IS HOLOCAUST, the notion of holocaust is concordant with the pattern that atomic discourse developed during this period: forging a constant connection between death, disaster and the incapability to take action. Holocaust is defined as 'a sacrifice wholly consumed by fire; a whole burnt offering', a terminology that belongs to the domains of religion and cult.[26] Religiosity along with sacrifice gives a very impressionistic sense of doom. This apocalyptic vision is supported by Weart (2012: 126), who claims: 'an entire different, "apocalyptic", mode of thinking came into play, a realm of nightmares, fantasies, and religious visions'. The total destruction of the Earth, under this mystic-religious perspective, can be interpreted as '*punishment for our sins*'. A powerful cultural metaphor based on *The Second Coming of Christ* is transported within the framework of the atomic mental model, reinforcing the idea of the martyrdom and victimization of the American population as a result of Russian nuclear supremacy:

(1) WHEN we add such emotional factors as the genuine concern of mothers for the welfare of their children, and the fears of the world of a nuclear holocaust, we have all the prerequisites for confusion (1/10/60, NYT)

(2) Can You Survive Atom Holocaust? (5/13/60, LAT)

(3) It appears unlikely that the world will avoid a nuclear holocaust if another 15 years pass without arms control agreements (7/16/60, LAT)

(4) Soviets to Renew Testing A-Weapons; Kennedy Sees Nuclear Holocaust Peril (8/31/61, WP)

Through the constant presence of a discourse of vulnerability and death, nuclear affairs progressively became embedded in a new order in which Americans were merely

[26] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/87793?rskey=JXUFxa&result=1&isAdvanced=false#eid (Last time accessed 19/1/2014)

helpless victims. It seemed as if for once, authorities had assumed that there was no way to fight back in an atomic war—it was all about *Mutual Assured Destruction*. In this new stage, language echoed the institutional mood creating a new way to conceive the Atomic Age. Indeed, it appeared to be the Government's plan to prepare public opinion for an atomic war, as Weart (2012: 71) observes:

> To prepare citizens for actual war, a program would have to instruct them in what atomic bombs could do. The civil defense agencies accordingly taught their millions of volunteers some raw facts about blast, fire, and radiation injury. Beyond simple training, officials hoped that exposing citizens to selected images of atomic war would "inoculate" them, getting them accustomed to horrible sights so they would not run around screaming when they bombs came. Civil Defense materials therefore showed carefully adjusted scenes of destruction.

However, even if this type of discourse was intended to have an inoculating effect, it created a psychological condition of anxiety and uneasiness that was represented in the conceptual model as a move toward a position of defense rather than of offense.

3.2.3. Metaphors of Security: from Deterrence to Détente

During this stage, there is a literal and figurative withdrawal from the FIGHT schema into a more passive position within the frame of ATTACK in which the US no longer holds an active stance, but would instead be presented as the victim of a callous assault. This conceptual shift in nuclear discourse stands in accordance with a political move that promoted more homeland security. According to Chilton (1996: 132) *defense* has an opposite, *attack*, and *security* does not. In addition *defense* is normally used only in a military context, while *security* has long been used in the civil domain. During this period, we witness a switch in the conceptualization of the US-Russia relationships in which the US adopts a policy of *security* (and *détente*) rather than of *defense.* Employing defense as the political and ideological strategy implied the emergence of a new conceptual model in which the notion of *containment* and national security were fundamental. Most of the data related to this topic are grounded in container, freedom, and path schemata, which denotes the veering of American position from defense toward détente as the following figure shows:

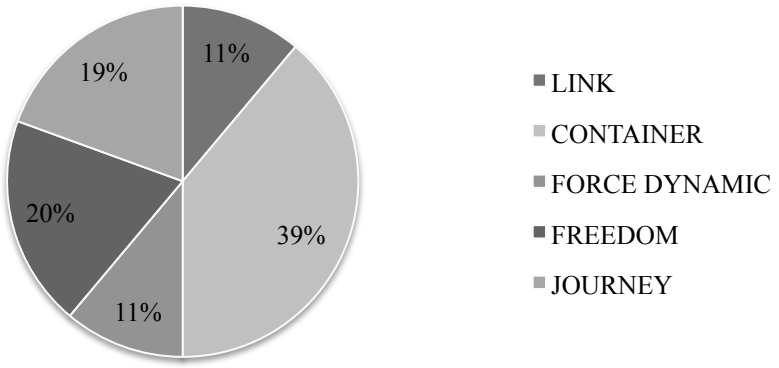


Figure 3.5. Conceptual schema for 'security'

The US is a Victim: Container Schema and the Shelter Program

In this mental schema the United States occupied a passive position, observing helplessly as Russia became increasingly powerful.[27] In effect, the breaking of the nuclear moratorium involved an increase in the victimization of the US.[28] To begin with, the fact that Russia did not respect the agreement was conceptualized as blackmail. The use of such a negative characterization reinforces the image of Russia as a villain, which is essential in order to consolidate the model of victimization in which nuclear discourse was immersed. This representation of the event of Russian's resumption of atomic testing was visualized in terms of vilified threat, as the meaning of blackmail implies 'to extort money from by threatening to reveal a damaging or incriminating secret; (also) to use threats or moral pressure against'.[29]

(1) President Kennedy today accused Russia of atomic blackmail and terrorism in abruptly deciding to resume nuclear weapons testing (9/1/61, CT)

(2) On Wednesday he called the resumption of testing 'atomic blackmail' (9/2/61, CT)

(3) President Kennedy Thursday denounced the soviet decision of resuming nuclear tests as 'atomic blackmail' and was reported ready to reassure the free world by disclosing details of the magnitude of US nuclear arsenal (9/1/61, LAT)

(4) U.S. Ponders Move Before Cuban Bases Can Force Blackmail: Decision Time Narrows Nuclear (10/27/62, WP)

The metaphorical entailments of this representation are based on passivity. In fact, this passivity is central in the new order where Americans were denied superiority in the atomic games. The US is replaced by a generic *free world* that appealed to old formulas of binary polarization based on freedom versus servitude, good versus bad, and life versus death:

[27] Indeed, Tzar Bomb was the most powerful nuclear weapon ever tested (Gaddis, 2005).
[28] I have mentioned before that Russia broke an atomic moratorium banning nuclear tests in 1961.
[29] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/19744?rskey=fW5jBs&result=2&isAdvanced=false#eid (Last time accessed 19/1/2014)

(1) The degree of risk must balanced against the great importance of the test programs to the security of the nation and of the free world (2/16/55, NYT)

(2) In a dramatic sequel to his atoms for peace proposal President Eisenhower now announces plans to build and send around the world a new atom-powered merchant ship as a symbol of American determination to use the new atomic forces not only for the defense of the free world but also for the improvement of living standards everywhere (4/25/55, NYT)

(3) U.S. ATOMIC MIGHT CAN SAVE FREE WORLD, KENNEDY SAYS (9/1/61, LAT)

(4) What the Soviet Union is obviously testing," the statement continued, "is not only nuclear devices but the will and determination of the free world to resist such tactics and to defend freedom (9/1/61, CT)

The discursive strategies employed in these examples are based on a complex network of meaning that, while not metaphorical in itself, makes use of metaphorical assumptions based on the tension between different conceptual and cultural schemata. Chilton (1996: 183) points out that lexical items related to *freedom* must be interpreted as a function of the container and link metaphors, provided that *to be free* is to be not bound, contained or constrained. I have mentioned before that by means of metonymic and metaphorical processes Russia and the United States had become polarized in absolutes terms of freedom and slavery. This is now used as part of the contextual implications derived from conceptual meanings in former periods. Still, the complex idea of *the United States is the free world* implies the tyrannical condition of the enemy and, more importantly, that the *free* world is no longer free. As part of a threatening new scenario, the ATTACK domain is represented as RUSSIA PRODUCING BOMBS IS RUSSIA ATTACKING THE US (AND ERGO THE FREE WORLD), and this ATTACK frame allows journalists to depict the US as a victim of Russian attacks. At this point, the necessity for better security and protection emerges prominently:

(1) The sardonic jest of a century ago-that the military, if given their head, would want bases on the moon to protect themselves against attacks from outer space-is now assuming the proportions of a dangerous prophecy (8/29/54, NYT)

(2) They are the most cognizant of the need for survival methods in order to protect their families (5/13/60, LAT)

(3) After all we have more adequate nuclear weapons of our own to guarantee our own security and protect the free world (9/5/61, WP)

(4) Would the Soviet government refuse to protect the common people of the world from radiation? (9/5/61, WP)

The former active role of retaliation and counter attack, gave way to a new frame in which the position of the US is more passive. In fact, in order to protect the people of the world, a program of shelters arose as the only possible alternative to the atomic threat. Compared to the strategic attitude of previous stages, in which American pursuit of more powerful weapons was represented as the conquering of new paths, now the dominant trend was to depict the American people as in need of shelter, opening a new conceptual model of atomic vulnerability. While the construction of atomic shelters was indeed a reality, it is also an influential metaphor to set a very specific mood of fear and despair:

(1) It has become mandatory that the government begin construction of an extensive system of survival shelters (2/11/55, CT)

(2) Even simple shelters, Strauss said, greatly reduce the danger from radioactivity (2/16/55, WP)

(3) The administration's fall-out shelter plan could save at least ten to five million lives in case of a nuclear attack (8/2/61, NYT)

(4) Even simple home shelters could reduce the radiation doses to persons (8/5/61, WP)

To shelter means 'to screen or protect from rain, wind, cold, the sun, etc.'.[30] In the new dynamic model of the US-Russia atomic confrontation, once the madness of an atomic race was discarded, the only alternative to total oblivion was shelter. The shelter

[30] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/177902?rskey=7Ag7Fv&result=2&isAdvanced=false#eid
(Last time accessed 19/1/2014)

metaphor was associated to protection and covering, a passive position within the harmful atmosphere of a nuclear war. Based on basic container schema, the fact that America needed shelters implies that the American house—formerly an impregnable temple—is no longer safe (Chilton, 2006; Hart, 2007, 2008, 2010). Regarding the idea of shelter, Chilton (1996: 64) claims that defense discourse depends on a metaphorical projection from basic understandings of bodily protection to forms of military 'cover'. In this container schema, shelter and housing are interpreted as containers where the cover is the roof. Conceptually, the mental model of atomic shelter implies that Americans lacked a container (Chilton, 1996: 148). In this period of fallout an actual shelter was required in order to protect American citizens from radioactive rain. While to shelter is not a metaphor but a literal attitude toward the dangers of fallout; more than a literal concept, the idea of shelter metaphorically conveyed a political mood. There is an underlying image-schema where Americans take a step back in the *mad* arm race to shelter under the protection of the state.

Containment and the Halt of the Nuclear Conflict

After periods of a conquering spirit that led the American government to forge far ahead in nuclear research, it was time to retreat, literally and figuratively speaking. In fact, the fears that emerged during these years could not be stopped by means of a complex strategy of Mutual Assured Destruction.[31] Defense began to be depicted in more literal terms, the idea of terror no longer an essential part of the plan as with the former deterrence policies. Once more the metaphor CONTROL emerges to underline the importance of slowing down the escalation of terror in which the US and Russia were

[31] Mutual Assurance Destruction was a type of military strategy had established retaliation.

immersed. Within such an uncontrollable situation, in which a nuclear holocaust could be unleashed at any moment, the link schema emerged to halt the *mad nuclear armament race*. Sometimes there was a literal allusion to an apparatus of control:

(1) The establishment of international control (11/27/55, NYT)

(2) It appears unlikely that the world will avoid a nuclear holocaust if another 15 years pass without arms control agreements (7/16/60, LAT)

(3) On the 15th anniversary of the nuclear arms race, let us recognize that while time is short, time still remains. We must no longer fail to do our utmost towards seeking arm control (7/16/60, LAT)

(4) Only this week Ambassador Dean has made additional proposals in the hope of moving toward a test ban under effective international control (8/31/61, NYT)

Interestingly, the idea of control seems to be different from the concept represented in previous stages. More than ever, the meaning of control was associated to the link schema in the sense of stopping the spiral of terror unleashed by means of the discovery of thermonuclear power.

Within the JOURNEY context, extensively employed during this and former periods, the use of verbs such as 'to halt' indicated a change in the conceptualization of the entire nuclear category:

(1) Harold Macmillan for an immediate halt to further air tests (9/5/61, WP)

(2) Mr. Kennedy and Mr. Macmillan appealed to Mr. Khrushchev last Sunday to halt tests in the atmosphere to prevent the spread of radioactive fall-out (9/11/61, NYT)

(3) The attempt to halt the nuclear race (8/31/61, WP)

(4) Soviet Russia set off two more nuclear blasts yesterday against a backdrop of anxious efforts by other nations to halt all atomic testing in the interest of world peace (9/14/61, WP)

Considering the meaning of to halt, as a temporary stoppage in a journey,[32] the move from a discourse of achievement and movement in the atomic journey into a less belligerent and aggressive rhetoric is evident. Perhaps for once, nuclear discourse was seriously considering the option of ceasing the nuclear race as the most reasonable way of avoiding a worldwide nuclear disaster:

(1) I know, he said, that thousands of my fellows American scientists are in agreement that we should take this important step [we have to stop the bomb tests] (6/3/57, CT)

(2) It would stop the accumulation of stockpiles of even more powerful weapons. It would inhibit the spread of nuclear weapons (8/31/61, NYT)

(3) The United States continues to share the view of the people of the world as to the importance of an agreement to end nuclear weapons tests under effective safeguards (8/31/61, NYT)

Indeed, during the period that goes from 1953 to 1962 the atomic category underwent formidable changes at the level of conceptual organization. While at the beginning the main interpretation involved the idea of a new path to be explored—with the peaceful atom as goal—by 1962, after bitter intensifications of aggression, it was time to abandon the mad confrontation and find new formulas in the battered relationships between the top nuclear powers. Thus, a new concept started to appear as the only possible solution to the nuclear dead end in which the US and Russia were immersed:

[32] http://www.oed.com.ezp-prod1.hul.harvard.edu/search?searchType=dictionary&q=halt&_searchBtn=Search (Last time accessed 19/1/2014)

(1) The United States continues to share the view of the people of the world as to the importance of an agreement to end nuclear weapons tests under effective safeguards. It would stop the accumulation of stockpiles of even more powerful weapons. it would inhibit the spread of nuclear weapons (8/31/61, NYT)

(2) But a much greater obstacle undoubtedly would be a Soviet counter-demand to include Europe in an atom-free agreement (10/27/62)

(3) The soviet union will continue to strive to reach agreement in the United Nations on the prohibition of atomic weapons (11/27/55, CT)

(4) It appears unlikely that the world will avoid a nuclear holocaust if another 15 years pass without arms control agreements (7/16/60, LAT)

While initially the utilization of this concept is not relevant within the rhetorical style of nuclear discourse, it established a new understanding of international relationships that allowed for the easing of tensions between the US and Russia after intense moments of authentic nuclear crisis. By the end of 1962, after the Cuban missile crisis, it was time to set a new pace on the atomic road, a new route that would channel nuclear affairs toward the search for a lasting peace.

3.3. Atoms for Peace and War: Interpretation of a Defeatist Discourse

This third stage in the history of the Atomic Age was without a doubt one of the most emotionally trying. Tensions between Russia and the US, the dangers of an atomic holocaust and the threat of an invisible enemy all occasioned a change in the internal structure of the conceptual category of nuclear relationships. This new perspective displaced the idea of active combat into a more cautious model of defense and passivity—or victimization. Yet, while the idea of POLITICS IS CONFLICT prevailed as the core frame within the atomic category, the dynamic representation of the participants veered into a unilateral disposition to attack only the Russian part.

In this new mental model, the conceptualization RUSSIA IS A THREAT developed a complex network of interrelated meanings in which metonymic processes allowed that the categorization of radiation and H-bombs became a part of the evil Russian enemy. These new menaces posited a global threat of nuclear holocaust. This is the time of the victimization of Americans, who subjugated by the tyranny of Russian nuclear might, had no choice but '*to duck and cover*'.[33] Indeed, through the use of a language of terror and threat, the media triggered reactions of vulnerability and hopelessness. There was a total loss of the confidence and pride of former stages. The model of two opposing blocs rivaling for atomic capability gives way to a modified perspective in which only one of the participants (Russia) takes on the attacking role.

[33] Duck and Cover was a film produced to make people aware of the procedures to follow in case of an atomic attack. While this film was created in 1951, the idea of covering and protecting will prevail during decades in the American subconscious as the only way to proceed in case of war (Lifton, 1995). The link to the video is this http://www.youtube.com/watch?v=IKqXu-5jw60 (Last time accessed 19/1/2014)

The most significant implication of this type of discourse is the fact that the dangers and terrors of a nuclear attack, constantly emphasized, produced a sense of vulnerability with noteworthy side effects. The period that goes from late 1953 to 1962 established a model of fear that would play a fundamental role in the reorientation of the Atomic Age toward more conciliatory paths. The fact that newspapers stressed the danger of an atomic holocaust, might indeed have been induced by a political mood that promoted fear as the only strategy against an actual nuclear threat. As Gaddis (2005: 82) observes:

> The Cold War could have produced a hot war that might have ended human life on the planet. But because of the *fear* of such a war turned out to be greater than all of the differences that separated the United States, the Soviet Union, and their respective allies, there was now reason for *hope* that it would never take place.

While during this period public opinion began to have a more prominent voice—many spoke out against nuclear proliferation, giving compelling evidence of the consequences of an all-out nuclear war—it was media discourse that served as the most powerful means to disseminate a sense of defenselessness. There is no doubt about the status as *turning point* that this period had within the Atomic Age: from a triumphalist attitude that aimed to sell the idea of the peaceful atom to the most pessimistic fears of an atomic holocaust. Certainly, the '*atomic atmosphere*' of these years deviates into a dead end that could only be escaped by means of the building of new routes to demilitarization and disarmament.

Despite an initial interest in peaceful atoms, the fact is that atomic discourse soon diverted into a dark space of despair and uneasiness. Analysis of the data shows an increasing tendency toward topoi of danger, threat, and vulnerability. Through the use of conceptualizations such as 'Russia producing bombs is Russia attacking the US (and ergo the free world)', 'radiation is an invisible enemy', or 'nuclear war is holocaust' the

atomic category became enclosed within a discourse of terror that could not be contested. At the level of the dynamic structure of the category there was a change in the way participants behaved. Now Russia attacks and the US is limited to a defensive position. This new dynamism can also be interpreted as a proximization strategy—Russia dangerously approaching US—that posits cues of fear and susceptibility (Hart, 2010).

Media contributed to the awakening of new emotional moods based on its apocalyptic visions about super-bombs, radiation, holocaust and extinction. Indeed, the natural reaction to these cues is fear and prejudice, since 'enhancing one's vulnerability to physical safety threat amplifies the emergence of a fear-based prejudice syndrome' (Neuber and Cottrell, 2006:175). And this fear was clearly expressed in the polls. For example, in 1954, the fourth most listed personal fear was atomic bombs (Gallup Poll, 1972: 1266). Similarly, when citizens were asked '*What do you think is the most important problem facing this country today?'* War related topics were among the most important problem listed. 'Threat of war, war in Asia, dealing with Russia' 18%, 'Communism in the U.S.' 17%, 'H-bomb, national defense' 9% (Gallup Poll, 1972: 1225).

In the same line, there are other surveys asking questions such as, '*If the United States and Russia get into war, do you think hydrogen bombs will be used or not?'* 63% answered 'will be used'. Similarly, when asked '*In case of another world war, how much chance do you think there is of this community (city) being attacked with hydrogen bombs–a good chance, a fair chance, or not much chance?'* 33% of the population replied 'a good chance' and 24% 'fair chance'.

The concern with a potential nuclear attack grew bigger and bigger during those days. In 1954, when people where asked about the most important problem facing the country, 48% of the population mentioned Russia, 6% Communism and 2% atomic energy (1345). In 1956, in a survey about 'atomic warfare' people were asked '*If there should be another world war, do you think the hydrogen bomb will be used against us?'* To this question, 63% of the population said 'yes, will be' (1434-35). The same survey put forward the question '*Do you think the area where you live would be wiped out?'* 43% of the population thought 'yes, would be'. Similarly, the survey kept asking '*Do you think you and your family would be likely to live through an atomic war?'* In a less proportion, but still in a considerable number, 38% of the population answered 'no, would not'. The same year, 66% of the population asked, considered that they were likely to get into another war in their lifetime.

The highest peak of atomic anxiety occurred in 1957, when Russia was overtly leading the race. By that time, 71% of the population believed that in case of another world war the H-bomb would be used against them (Gallup Polls, 1972: 1489). In 1958, to the same question, 73% surveyed said 'yes' (1552). The atmosphere becomes more and more suffocating for the American public. This is due to a type of nuclear discourse that potentiated the emergence of emotive coercion manifested in metaphorical representations of threat, death, and total war. It was, in fact increased, when radiation, the 'invisible enemy', was introduced in this new conceptual category. Newspapers narrating stories of radiation displayed a set of powerful strategies that activated emotion modules of fear and disgust (Hart, 2010). According to Neuber and Cottrell (2006:175), 'enhanced vulnerability to a health threat should amplify the emergence of a disgust-

based prejudice syndrome'. In fact, regarding the notion of disease, which is implicit in the new definition of radiation, we find support in the claims of Evolutionary Psychologists such as For Schaller & Murray (2010:246), who claim that most of the fears that can raise modules of danger/threat have an evolutionary origin in the spread of contagious diseases, 'therefore, it's also no surprise that humans (and many other species) are equipped with a "behavioral immune system" that serves as a first crude line of defense against potentially harmful pathogens'.

Numerous polls show that orientation. In 1957, people were asked about fall-out in the following survey (Gallup Polls, 1979: 1488) '*Do you think there is real danger from 'fall-out' of radioactive matter from the testing of H-bombs and A-bombs now being done, or not?'* In this case, 52% of the population thought that there was real danger. Similarly, in 1958, when people were asked '*Do you think continued testing of hydrogen bombs will likely result in a threat to the health of future generations?'* 46% of the population said 'yes', 27% 'no', and only 27% did not have any opinion (1553).

In addition, the employment of discursive strategies that enhanced fear and threat engendered a sense of solidarity and a need for protection. Neuber and Cottrell (2006:168) believe that this aspect motivated efficiency:

> Because human ancestors were fundamentally social creatures who gained great benefits from effective group action, we might expect to find mechanisms that lead humans to be attuned to threats to the resources that group provide us—e.g., territory, property, economic standing–as well as to threats to the structures and processes that encourage effective and efficient group operations.

By the end of that decade, and more specifically in the early years of the 1960s, the 'shelter fever' occupied front pages and public interest. That was, supposedly, the only way possible to survive an atomic attack. Even before Kennedy launched his famous

shelters campaign in 1961, different voices were suggesting the use of home shelters as an escape for atomic holocaust.[34] Proximization strategies were crucial at this point, since 'one way to heighten the sense of threat, of course, is to present the danger as close' (Hart, 2010: 85). The idea of radiation falling out of the sky, and the fact that Russia was immersed in a program of destruction aimed at the Western world motivated text-receivers to accept that the only possible thing to do was to hide themselves from atomic dangers. In 1960, people where asked about 'bomb shelters' in a survey (Gallup Polls, 1979: 1671) '*Would you favor or oppose a law that would require each community to build public bomb shelters?'* In this case, 71% of the people asked said to be 'in favor'. Later in the year people were asked again about fallout shelters (Gallup Polls, 1979: 1745): '*Suppose it was decided in your community to build a public fallout shelter. Would you or your husband (wife) be willing to work a day or two on weekends or to give one or two days' pay to help build up?'* 62% were willing to work, 19% were willing to give money, and only 19% were not willing. When asked '*Have you given any thought to what living in fallout shelters would be like?'* 60% of the population said 'yes'. Neuber and Cottrell (2006:167) claim that:

> Humans have evolved to become sensitive to the presence of cues that imply threats to well-being (e.g. a rapidly looming large object) and to generate in response to these cues functionally focused emotional reactions (e.g. fear) and cognitive associations (e.g., ideas of physical harm) that work together to motivate specific behaviors (e.g., running away, hiding) designed to mitigate the potential impact of the threat.

In this new landscape of total destruction, cleverly deployed by media discourse, the only possible way to alleviate the impact of the nuclear threat was to remain within a shelter and wait until the threat had passed. Text-receivers had progressively shifted from a

[34] President Kennedy began an ambition program of home shelters that would help citizenry to cope with the after effect of a nuclear attack.

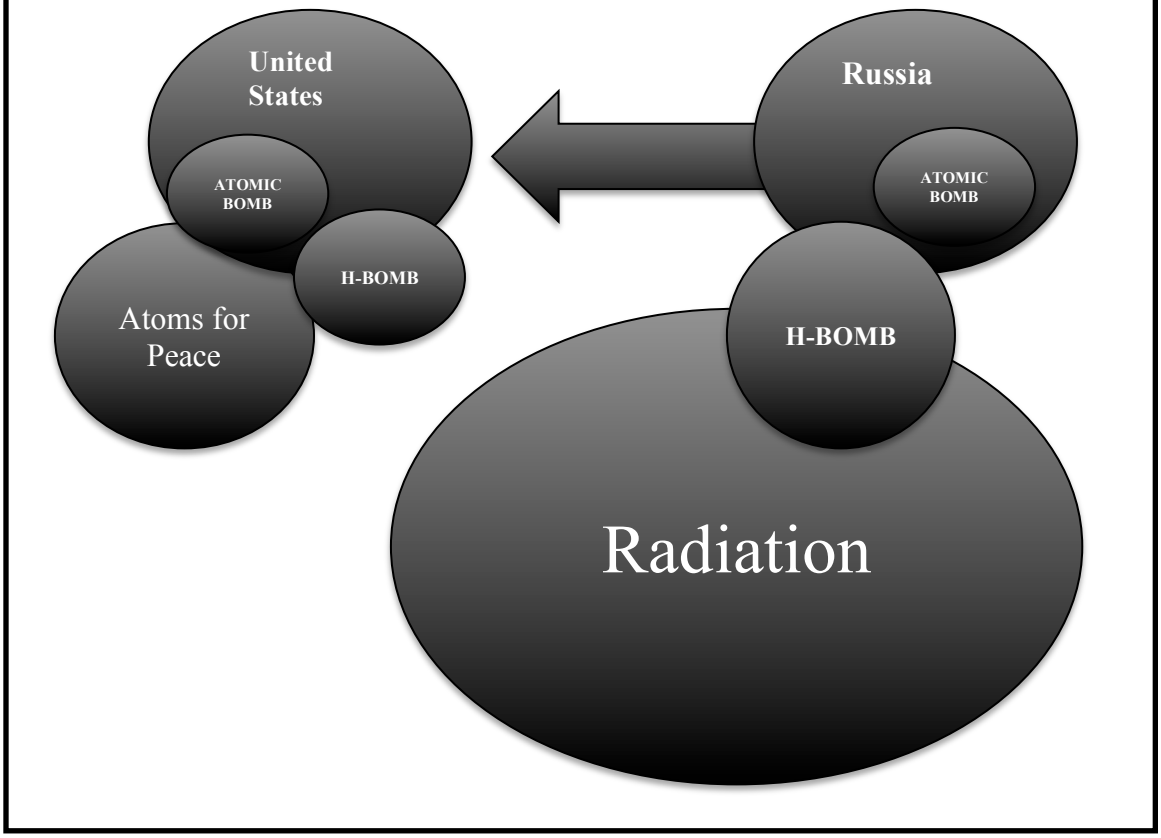
position in which an attack was the better solution—based on deterrence and the supremacy of the nuclear armament race—to a place in the American house within the protection of a fallout shelter.

Fear had spread contagiously and it was unrelenting at this time. In 1960 people were asked to name the most important problem facing the nation. The survey presents the following text: 'The overwhelming majority of those interviewed regard relations with Russia and the rest of the world as being the primary problem facing the country' (Gallup Polls, 1972: 1676). Never before had this poll reached such unanimity. People were scared. In 1961, the population was asked about the threat of war: '*How worried are you about the chance of a world war breaking out in which atomic bombs would be used–very worried, fairly worried or not worried at all?'* 22% said 'very worried', 37% fairly worried, 38% not worried at all and just a 3% did not have an opinion (Gallup Polls, 1972: 1726). In fact, 1961 appears to be an exceptional year for nuclear threat. On September 13th, people were asked once more about their opinions regarding nuclear war: '*If we should happen to get into an all-out nuclear war, what do you think your own chances would be of living through it–very good, poor, or just 50-50?'* To this question, just 9% of the population said 'very good', 40% considered a '50-50' chances, and a 43% a 'poor' chance (Gallup Polls, 1972: 1734). In the same survey people were also asked: '*If we should happen to get into an all-out nuclear war, do you think this locality would be one the Russians would particularly want to bomb, or not?* The answers were displayed by region; thus, in the East a 60% of the population said 'yes', in the West 67%, Midwest 59%, and finally in the South 31%.

The American population was becoming more and more aware of the hazards of the nuclear arms race. In 1962, a survey asked the following question: *'Last fall Russia resumed testing of nuclear bombs with a series of tests in the atmosphere. The United States then resumed testing of nuclear bombs, but all of the tests have been underground. Do you think the United States should or should not resume tests in the atmosphere?'* Public opinion seemed divided between a 46% that said 'should' and a 43% that answered 'should not'; just a minor 11% did not have an opinion (Gallup Polls, 1972: 1753).

The period that goes from 1953 to 1962 was dominated by a discourse of uncertainty that eclipsed the potentials of the development of 'Atoms for Peace'. Few surveys gave a nod to the 'sunny side of the atom'. By 1956, 66% of the population believed that the United States would be using atomic energy in the next 10 years (Gallup Polls, 1972: 1400). In the same survey, almost 50% of the population could name some of the peaceful uses of atomic energy. Though these data are a sign of hope, they are not indicative of a change of mood or perspective regarding nuclear affairs. Undeniably, the threat of a nuclear disaster had grown so much that Americans were absolutely paralyzed and unable to take an active or positive position within the conflict. Within such a landscape, the mental configuration of the atomic category presented substantial changes, as the following figure displays:

CONFIGURATION OF THE ATOMIC CATEGORY 1953-1962



New elements, such as radiation or Russian thermonuclear power, featured now in the epicenter of the category, which was also modified in terms of spatial relationships and dynamic representations. In fact, one of the most remarkable new features was the fact that the US is depicted as a static element. Linguistic strategies used with manipulative purposes proved to be extremely effective. They generated a sort of cognitive coercion capable of changing the entire order within a category that traditionally had represented the American bloc in a prevailing position of control and supremacy.

Similarly, strategic discourse motivated a shifting in the ideological classification describing the Atomic Age. Emotional coercion organized around a new perspective in

the political and ideological temper derived into a new set of beliefs and truth criteria within the US group:

CATEGORIES FOR THE IDEOLOGICAL GENERAL SCHEMA OF 'THE ATOMIC AGE': 1953-62	
MEMBERSHIP	We are Americans, we are victims of the Russian tyranny
TASK	We must stop the mad race
GOAL	To make the human race survive atomic holocaust
NORMS & VALUES	We believe in world peace and we believe radiation is bad
RESOURCES	We have the willpower
POSITION	We are being attacked and we need to take shelter

Table 3.3. Ideological general schema from 1953 to 1962

The change in the ideological perspective as well as the actual modification of the mental conceptualization of the atomic conflict gave way to an incredible new stage of talks and agreements. Without the help of media discourse reinforcing models of terror and hopelessness, a change of order would have been unthinkable. However, the powerful strategies of proximization (projecting an image of a looming Russia) along with referential strategies reinforcing the model with topoi of danger and fear (in particular in relation to the definition of radiation) facilitated a change. This change took place not only at the level of conceptual organization but also in the actual structure of the Cold War, which for a few years—from 1962 until 1979—underwent a relative ease in the tensions of the preceding years.

4. THE ATOMIC TALKS: 1963-1979

Signature of the Nuclear Test Ban Treaty

'Both the United States and its allies, and the Soviet Union and its allies, have a mutually deep interest in a just and genuine peace and in halting the arms race'
(President Kennedy, 1963)

4.1. The Gray Area of the '*Cultural Revolution*'

Historians and atomic energy experts consider the period from 1963 to 1979 less relevant in terms of atomic tensions.[1] Political emphasis during this period was placed on forging a new perspective with regards to the US-Russia nuclear relationship. After the Cuban Missile Crisis, both American and Russian authorities had arrived at an acute awareness of the catastrophic danger of nuclear warfare. With the doomsday clock ticking ever closer to midnight, the time had come for a paradigm shift in nuclear relationships and developments.[2] The visible devastation caused by mere tests of thermonuclear weapons was sufficient to deter both sides from actually using them. The atmosphere of fear in the face of potential annihilation forced relaxed what had been, until then, a militant stance on both sides. In fact, throughout the 1960s and much of the 1970s, international nuclear policy was focused on the signing of agreements designed to ease earlier tensions.[3] Other factors also precipitated a shift away from nuclear questions as Americans focused on the domestic uproar caused by the Vietnam War and the Watergate Case.

During these years, nuclear deterrence was abandoned in favor of Kissinger's philosophy of détente, a logic of agreement and negotiation.[4] In 1963, the US and Russia signed an agreement known as the *Limited Test Ban Treaty*, which aimed to abolish

[1] See Boyer (1986) for a detailed account of this period that the author identifies as 'the big sleep'.
[2] The doomsday clock appears on the front cover of the 'Bulletin of Atomic Scientists' and tells in minutes how far away the world is from nuclear confrontation or disaster. The closer the clock is to midnight, the closer the world is to an atomic holocaust. Gaddis (2005: 78) sees in this crisis the reason for which the US and Russia began to develop a less belligerent stance on nuclear affairs: 'The Cuban missile crisis, in a larger sense, served much the same function that blinded and burned birds did for the American and Soviet observers of the first thermonuclear bomb tests a decade earlier. It persuaded everyone who was involved in it—with the possible exception of Castro, who claimed, even years after, to have been willing to die in a nuclear conflagration—that the weapons each side had developed during the Cold War posed a greater threat to *both* sides than the United States and the Soviet Union did to one another.'
[3] McNamara is the architect of this new political turn (Gaddis, 2005).
[4] Kissinger is one of those responsible for pushing agreements and halting the nuclear race (Willis, 2010).

atmospheric nuclear tests and thus the eliminate environmental dangers posed by radiation. In 1968, the *Nuclear Non-Proliferation Treaty* was ratified, prohibiting nations with nuclear weapons from helping other countries to acquire them. Ironically, it was during these years that nuclear issues crept closest to the *Atoms for Peace* concept ideated by Eisenhower a decade prior.

During the years from 1963 to 1979, nuclear energy was began to be harnessed as a power source in both Europe and the United States. The world's first commercial nuclear power plant was opened in 1956 in the United States; the second in 1960, followed very closely by the first boiling water nuclear plant in Chicago. A few years later Canada opened its first nuclear reactor and France launched its nuclear power program in 1965. At the same time, Russia was also making progress towards the commercial use of atomic energy. During the 1960s alone, 167 nuclear plants were installed throughout the entire world. Indeed, it was a time of significant nuclear innovation. In October 1965, for instance, as part of 'Operation Sea Orbit,' three ships fueled exclusively by nuclear power circumnavigated the globe without a single stop to refuel. In 1965, the first nuclear reactor was launched into space, a mere prolegomenon of the moon landing in 1969.

In general, the sixties and seventies involved less conflict than former periods. It was only towards the end of this moment that media resurrected prior fears of the Communist menace, the nuclear arms race, and all-out atomic warfare. The Russian invasion of Afghanistan in 1979 marked the end of this period of peace. At that moment, the latent atomic race returned, bringing an end to almost two decades of *atomic big sleep* (Boyer, 1986).

4.1.1. Media Representation of New Paths

As in previous periods, media played a crucial role in the re-configuration of the atomic category. However, the particular political circumstances had led atomic discourse into a state of *ideological* sleep that lasted a couple of decades. The atomic race, previously promoted so extensively by newspapers, was now irrelevant. Indeed, headlines, contents, and even the number of articles addressing nuclear affairs were much more moderate. In fact, the tone was restrained by the new, slower pace of atomic discourse. Steeped in this laconic attitude, the main belief promulgated during these years consisted in a sense of control and peaceful agreement.

Atomic races and nuclear holocausts no longer held an interest in the forum of public opinion. If previously, nuclear anxiety had reached extraordinary heights, now there was a tangible abandonment of the darker side of atomic affairs in favor of a new, more peaceful vision. The data regarding nuclearity in the media during this period confirm that the ideology of détente was successfully promulgated.[5] Based mainly on the path schema, the main concern throughout this stage laid in consolidating a mental understanding of the nuclear conflict in terms of movement along the path of agreement. Almost hyperbolically, the media emphasized an orientational schema in which the US and Russia joined forces in a quest for peace. Newspapers undertook the mission of allaying the considerable public angst accumulated throughout previous periods. The media found the key to effectively achieving its persuasive purposes in a simplification of its message.

[5] According to the Oxford English Dictionary, détente is 'the easing of strained relations, esp. in a political situation'.

4.2. Path Metaphors and Force Dynamic Schemata: Designing New Roads

After the Cuban Missiles Crisis, atomic energy was no longer considered in terms of its promise. Instead, an increasing anxiety shrouded every atomic affair.[6] A priori, this was a tepid period that many consider irrelevant within the story of the Atomic Age (Boyer, 1986). Linguistically speaking, it shows patterns that reinforce the main claim of the present dissertation: that media discourse shaped the ideological mental model of atomic affairs. In this particular case, the years of the '*big sleep*' were determinant in the consolidation of a renewed mental image of the processes related to nuclear affairs. After analyzing 250 metaphors in a corpus of 50 articles, the findings indicate that there is a shift in the way the policy of nuclear warfare was addressed: from a discourse of CONFLICT the media turned to a language of DIALOGUE, AGREEMENT and fruitful GOALS. Only at the end of this stage did the type of belligerent tone of previous periods return, once more resuscitating ideas of atomic conflict. The following table indicates the main division of these metaphors:

TOPICS AT THE GLOBAL LEVEL	***T: 250***	***%***
AGREEMENT FOR PEACE	135	54%
CONTROL OF NUCLEAR POWER	66	26%
THE NEW CONFLICT	50	20%

Table 4.1. Semantic macrostructures 1963-1979

The majority of this corpus consists of metaphors directly or indirectly associated with the journey schema. However, there are different perspectives regarding *the atomic*

[6] Gaddis (2005: 78).

path. At the beginning, the idea of initiating a new way of dealing with atomic policy is explicitly presented as a path in which the US and Russia are taking new steps. As part of this general schema, the idea of talks and agreements is perceived as the ultimate goal. Numerous examples relate to the idea of AGREEMENT IS GOAL and represent the US and Russia *walking* in the same direction toward that *goal* (64%). With regards to uncontrolled movement and LINK schemata, we can also see how a small portion of the corpus comprises metaphorical representations of control, where the implications are involve a cessation of movement that is in direct relation with the idea of CONTAINER (26%). In a similar guise, examples at the end of this period demonstrate that the concept of RACE had been reanimated (20%), concluding one of the least turbulent periods in atomic history.

According to the structure of the motor schema that we have seen in previous stages, this period of the atomic talks could easily correspond to the part of the motor schema in which there is a reason to cease movement:

MOTOR SCHEMA The Atomic talks 1962-1980	
THE MAIN PROCESS	The US and Russia are walking in the same direction toward peace
AN OPTION TO STOP	The dangers of the atomic conflict: international control
AN OPTION TO RESUME	The new technological race: the missile era

Table 4.2. The Atomic talks and the resumption of the atomic race 1962-1980

Within this motor schema, as we have seen in the distribution of data, the idea of path is fundamental for the correct ideological interpretation that the media intended to portray. In this new order, there is a model in which the US and Russia move toward the

same common goal of peace. The following figure depicts how that new dynamic scheme would be conceptualized:

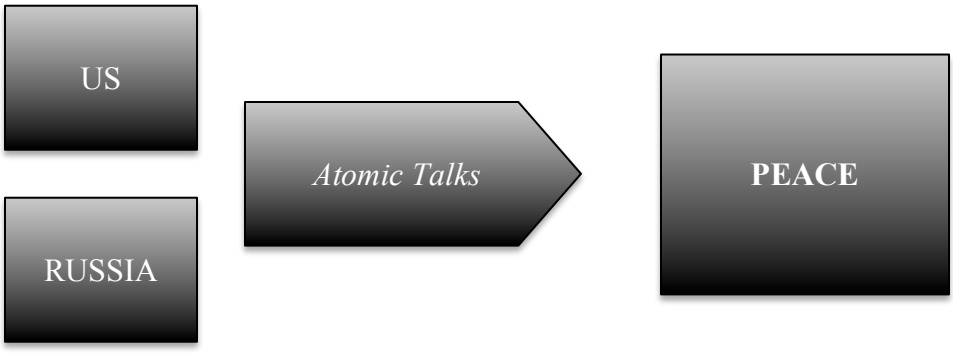


Figure 4.1. Dynamic representation of the atomic category 1963-1979

Though it would only prevail for a few years, this model of common effort has become one of the core discursive strategies within nuclear discourse to describe an atmosphere of cordiality and agreement.[7] Along with the notion of a common path towards peace, there emerged a mutual interest in putting a stop to nuclear proliferation—an interest which would be represented using metaphors of the link schema. Unfortunately, after a brief period of atomic agreement, soon the language of discord revived images of the nuclear arms race at its most intense.

The three main topics—agreement, control, and conflict—present an interesting subdivision of conceptual representations. The following table shows a taxonomy of the different ways in which the idea of SOURCE-PATH-GOAL is interpreted at different levels:

[7] A recent article published by *The New York Times* narrates the agreement reached by Iran and the US and other nations to halt nuclear development in Iran in a very similar way and with almost identical linguistic structures as those from the period of the nuclear talks between the US and Russia. The article, entitled 'Accord Reached With Iran to Halt Nuclear Program' can be read at the following address http://www.nytimes.com/2013/11/24/world/middleeast/talks-with-iran-on-nuclear-deal-hang-in-balance.html?ref=international-home&_r=1& (Last time accessed 19/1/2014)

GLOBAL TOPIC	CONCEPTUAL STRUCTURE	LINGUISTIC REPRESENTATION
Agreement	JOURNEY	Nuclear talks are a journey: *A first step leading to other agreements on the road to disarmament*
	CONTAINER	Agreement is constructing: *We look forward to several days of good constructive work together*
	FORCE DYNAMIC	The US-Russia relationship is tension: *A first step toward easing east-west cold war tensions*
	MORALITY	Agreement is profit: *The test ban-treaty to show off the first solid fruits of his co-existence policy that Peking violently rejects*
Control	LINK	Control is cessation of movement on the atomic journey: *The world must move quickly beyond the test ban treaty with new effort to halt the spread of nuclear weapons*
	CONTAINER	Nuclear arsenal is a building: *More would then be dismantled to come down to a ceiling of 2.250 in 1981*
Conflict	COMPETITION	The development of nuclear power is a competition: *Russ to Take Nuclear Lead, Expert Says*
	FORCE DYNAMIC	The US-Russia relationship is fight: *Because a possible first strike by Russia would destroy our retaliatory capability*
	THREAT	Nuclear age is suicide: *A warning about the risks of "global suicide" in a nuclear age*

Table 4.3. Conceptual representation of the global topics at the local level 1963-1979

As mentioned before, the keystone of media discourse between 1963 and 1979 is the perception of the atomic category vis-à-vis a simple JOURNEY schema. This framing eliminates emotional cues of fear and despair, giving way to a language of agreement. The analysis indicates moderation in the discursive tone. The style, indeed, moves from alarmism to a terrain of dialogue and harmonic relationships between the US and Russia. The new political situation demanded a new conceptual perspective. Nonetheless, instead of new discursive formulas that could complicate the message, media discourse adopted a

style characterized by the simplicity of the images and frames employed to draw the structure of nuclear ideology at the time. While in former periods atomic research was represented as in the middle of an out-of-control mad race, in this new place far from the dangers of atomic holocaust, cordiality and a disposition to agreement ruled the day. The task at hand, in this new context, was to follow a new route toward peace and control over the terrible atomic monster unleashed many years earlier.

4.2.1. Change in the Path Schema: Journey Metaphors

Conceptually speaking, during this period, the idea of confrontation was neglected as a move was made into more pacifist terrains in which the US and Russia were represented as walking together into a common space of dialogue and cordial agreement. The fact that a high number of examples were related to the notion of movement along a path, supports the idea of language shaping our understanding of the world, more particularly in this context, media discourse shape text-receivers' comprehension of the atomic talks. According to Chateris-Black (2011: 317):

> Journey metaphors comprise what may be summarized as a SOURCE-PATH-GOAL schema. From this general mapping the particular types of submapping from which there is evidence in political speech making are, purposes are destinations, means are paths, difficulties are impediment to motion, long-term, purposeful activities are journeys.

In this new journey taken by the two atomic superpowers, there is linguistic evidence showing the application of this journey metaphor, which was used to structure the rhythm of the atomic agreements. The following chart displays the organization of conceptual schemata associated to the topic of agreement:

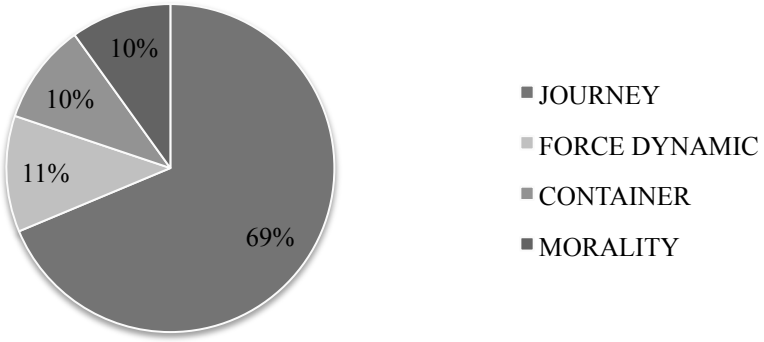


Figure 4.2. Conceptual schemata for 'atomic talks'

US and Russia are Moving along the Same Road

As this is the opening of a new representative move, one of the natural ways of expressing this new stage was by considering it a *turning point* in the atomic path. In fact, as Chilton (1996: 53) observes, 'policies are often thought of as specific types of PATH schemata—that is, they are metaphorically conceptualized as a single path leading to a visible single end'. In the case of atomic policy, behind this contextual implication of a path leading to a single end lies the idea of improving the way of moving along the atomic research trail. For Lakoff and Johnson (1999: 207) this constitutes a clear case of CHANGING IS TURNING in which 'remaining in a state is conceptualized as moving in the same direction, and changing is seen as turning to a new direction'. The following examples are cases of this conceptualization:

(1) Rusk said the agreement "would prevent the world from becoming more dangerous. We come here with a hope and a resolve to make the treaty a turning point in the affairs of mankind." (8/4/63, CT)

(2) We come here with hope and with the resolve to try to make this treaty a turning point in the affairs of mankind, Rusk said (8/4/63, LAT)

By means of the metaphor TURNING POINT, which literally is 'a point at which something turns, or changes its direction of motion, etc.; spec. a maximum or minimum point on a graph, where it begins to tend downwards or upwards';[8] the whole atomic category veered toward more pacific perspectives. In fact, in order to reinforce the necessity of change, some other examples present the image of deadlock, 'a condition or situation in which it is impossible to proceed or act; a complete stand-still', which symbolizes the paralyzing mood of the two powers following the Cuban Missile Crisis:[9]

(1) A Yugoslav foreign ministry spokesman in Belgrade said that the test ban opened "considerable prospects" for further negotiations to break the cold war deadlock (7/27/63, CT)

(2) The United States and the Soviet Union broke a deadlock in the strategic arms limitation talks today and agreed to start negotiations in April 16 in Vienna (12/23/69, CT)

These representations are, indeed, associated with the US and Russian need to move to a safer landscape, a change of direction that would imply a journey towards peace. As the following examples show, the change of direction is associated with a change in the political mood:

(1) The agreement ended more than five years of sometimes bitter negotiations by the world's major nuclear powers. The three nuclear powers also hinted at further progress that could herald a change in relations between the Soviet Union and the west (7/26/63, CT)

(2) The one way to force a real change in Soviet policy is to convince the Kremlin that it just can't afford an expansionist, domineering course (12/17/68, LAT)

(3) Big Two agreement would set in motion a process likely to change for the better the whole climate of international affairs (5/12/67, LAT)

Conceptualizing this event in terms of the journey metaphor clearly contrasts with the former force dynamic schema in which there was a clear confrontation of forces that

[8] http://www.oed.com/view/Entry/207707?redirectedFrom=turning+point#eid (Last time accessed 19/1/2014)

[9] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/47659?rskey=4BfTnA&result=1&isAdvanced=false#eid (Last time accessed 19/1/2014)

could only result in all out atomic war. Changing, turning, or getting out of the deadlock implied the emergence of a new position within international nuclear matters, which entailed initiating a dialogue between the two superpowers known as the atomic talks.

In fact, after reaching a metaphorical turning point and escaping the deadlock, the conceptualizations moved on toward a representation of *the walk towards peace* and the idea of taking steps toward a change in the atomic *route*. One of the simplest ways of representing this idea was using the word "road" to talk about the atomic talks and agreements:

(1) Paul-Henri Spaak, Belgian foreign minister, said the agreement was evidence of a "new spirit" and must be considered as a first step leading to other agreements on the road to disarmament (7/27/63, CT)

(2) Is this the road toward entrapment for either the United States or the Soviet Union? President Nixon and Brezhnev evidently are convinced it is not (5/21/72, WP)

(3) A Long, Long Road Ahead: SALT (11/27/72, NYT)

(4) This important step on the part of the U.S.S.R. is properly appreciated by our partners at the negotiations and that the road will thus be cleared to concluding a treaty (11/2/77, LAT)

In addition, as part of a conceptual metaphor connected to the idea the JOURNEY metaphor, or more specifically in this political arena PURPOSEFUL ACTIVITY IS TRAVELLING ALONG A PATH TOWARD A DESTINATION (Chateris-Black, 2004: 90), one can find linguistic elements such as *steps*, which are 'conventional ways of talking about progress toward a goal' (Chateris-Black, 2004:74), to represent atomic talks as a way of initiating a new course on the atomic path:

(1) Paul-Henri Spaak, Belgian foreign minister, said the agreement was evidence of a "new spirit" and must be considered as a first step leading to other agreements on the road to disarmament (7/27/63, CT)

(2) The United States, Britain, and the Soviet Union signed a treaty banning most nuclear tests today and hailed it in a statement as an important first step toward world peace (8/6/63, CT)

(3) Britain, the United States and the Soviet Union signed a treaty banning most of nuclear test today and hailed in a communiqué as an important first step towards world peace (8/6/63, WP)

(4) At least the first steps have been taken to reduce the risk of the nuclear arms race that has hung like a cloud of doom over the world since Hiroshima (5/28/72, NYT)

The definition of step is 'an act of bodily motion consisting in raising the foot from the ground and bringing it down again in a fresh position; usually, an act of this kind as constituting by repetition the progressive motion of a human being or animal in walking, running, or climbing'.[10] The use of this metaphor creates a clear association between motion and volition. More importantly, the fact that the collocation *first steps* is used indicates a sense of hope and freshness.

It could be claimed that there is an association with infancy, such as RUSSIA AND US IN THE ATOMIC TALKS ARE INFANTS TAKING FIRST STEPS. This metaphorical representation not only evokes patriotism but also notions of innocence and purity.[11] Such a frame is fully compatible with media and official intentions to portray kindness as an important aspect of the atomic talks. In such a context—of movement toward the same goal—tension was eased and represented as *first steps to ease tension* (PATH + FORCE DYNAMIC MOVEMENT IN THE SAME DIRECTION). There is a metaphorical force dynamic model in which POLITICAL DIVERGENCE IS TENSION:

[10] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/189836?rskey=qmWhiw&result=2&isAdvanced=false#eid (Last time accessed 19/1/2014)

[11] As Chateris-Black states, 'personifications of America to evoke patriotic feelings that are effective in times of national crisis since the idea of the nation has a powerful emotional resonance for many Americans' (2011: 256).

(1) They hailed the agreement as a first step toward easing east-west cold war tensions (7/26/63, CT)

(2) It said their governments the partial ban on testing as an important initial step towards the lessening of international tension and the strengthening of peace (8/6/63, CT)

(3) Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace (8/6/63, NYT)

(4) The communiqué issue immediately afterwards, said that the three powers agreed an important initial step towards the lessening of international tension and the strengthening of peace, and have stressed hope that further progress would be achieve toward that end (8/6/63, LAT)

One of the meanings of tension is a strain, a stretch or a tightness of the muscles.[12] Undoubtedly a linguistic metaphor, the fact that tension is used within the contextual frame of journey bolsters notions of cooperation and relaxation. In the same line, media discourse continued to employ the image *taking steps* to refer to the continuation of the talks and conversations:

(1) Gromyko then added that he hoped the agreement would lead to further steps to ease the cold war (7/26/63, CT)

(2) Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace (8/6/63, NYT)

(3) Rusk said the United States was determined to follow up the signing of the treaty with other steps to insure peace (8/4/63, CT)

In association with taking steps, commencing a new era becomes an implicit part of that road. Once more, reporters made use of this popular image to proclaim the wonders of a new age in the history of men. As in former periods, the relationship between this new stage and a new era entails positive connotations that create an atmosphere of hope. Interestingly, in the conceptualization of atomic talks as a new era,

[12] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/199184?rskey=QJXvmP&result=2&isAdvanced=false#eid18923995 (Last time accessed 19/1/2014)

there is an implicit sense of movement that connects the representation *taking steps* with change:

(1) A new era in West-East relations dawned Monday with the United States, the Soviet Union and Britain pledging solemnly to end nuclear explosion in the atmosphere, outer space, and under water (8/6/63, LAT)

(2) Nuclear test ban negotiations have long been a symbol of East-West disagreement. If this treaty can also be a symbol - if It can symbolize the end of one era and the beginning of another–if both sides can by this treaty gain confidence and experience in peaceful collaboration–then this short and simple treaty may well become an historic mark in man's age–old pursuit of peace (7/27/63, NYT)

(3) The United States and the Soviet Union are embarked on what the Nixon administration calls the prospect of a "new era in international relations" while American mines block Russian shipping from the harbors of North Vietnam (5/21/72, WP)

All these examples connect with the beginning of a new way of looking at nuclear energy: an era that would lead the two powers to the ultimate goal of peace and arms control. Similarly, the illustration of evolution or movement within the new path is part of the frame of PROGRESS and SUCCESS. In order to obtain the goal—in this case represented by peace—Russia and the US must make progress along the new path. Progress can be defined as 'progression or advancement through a process, a sequence of events, a period of time, etc.; movement towards an outcome or conclusion'.[13] Thus, the conceptual metaphor ACHIEVING IS MOVING is embedded within the bigger frame of the JOURNEY metaphor that dominates the general view of this period:

[13] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/152236?rskey=daDxyt&result=1&isAdvanced=false#eid (Last time accessed 19/1/2014)

(1) The three nuclear powers also hinted at further progress that could herald a change in relations between the Soviet Union and the west (7/26/63, CT)

(2) It said their governments regarded the partial ban on testing as an important initial step and hoped that further progress toward peace would be achieved (8/6/63, NYT)

(3) The communiqué issue immediately afterwards, said that the three powers agreed an important initial step towards the lessening of international tension and the strengthening of peace, and have stressed hope that further progress would be achieve toward that end (8/6/63, LAT)

(4) That is why we seek progress toward the solution of the dangerous political issues of our day (11/18/69, WP)

In these examples new agreements and talks relate to progress achieved along the path of atomic talks. These examples not only portray a linguistic metaphor by using IMPROVEMENT IN THE TALKS IS PROGRESS IN THE JOURNEY, but they also strengthen the idea of PURPOSEFUL ACTIVITY IS TRAVELLING ALONG A PATH TOWARD A DESTINATION. This notion of path is constantly emphasized with more explicit examples in which the conceptualization is TALKS ARE MOVEMENT ALONG THE JOURNEY:

(1) From here we hope to go on to other agreements and our countries…we look forward to several days of good and constructive work together (8/4/63, LAT)

(2) If we are to leave our children a planet in which to live safely, to fulfill the bright promise of their lives, we must resume the journey towards peace (6/24/65, NYT)

(3) If the good relationship and serious intentions shown here can be carried over to the next phase of the talks (12/13/69, WP)

(4) While this series of negotiations will go on to perhaps three or four years, the first tangible outcome could come before Christmas (11/22/72, NYT)

There is a clear interest in accentuating movement as an indicator of progress. This is a primary metaphorical representation that does not require complex contextual decoding. A conceptualization in which there is movement along a path and a clear goal is rather common. Indeed, the particle *towards* depicts the orientation to that final destination:

(1) They hailed the agreement as a first step toward easing east-west cold war tensions (7/26/63, CT)

(2) It said their governments the partial ban on testing as an important initial step towards the lessening of international tension and the strengthening of peace (8/6/63, CT)

(3) Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace (8/6/63, NYT)

(4) The communiqué issue immediately afterwards, said that the three powers agreed an important initial step towards the lessening of international tension and the strengthening of peace, and have stressed hope that further progress would be achieve toward that end (8/6/63, LAT)

In all these examples a conceptual structure based on the PURPOSES ARE DESTINATIONS metaphorical model emerges in order to reinforce the journey schema. For Lakoff and Johnson (1999: 191), 'putting together the understanding of purposes as destinations and actions as self-propelled motions, we get a conception of purposeful actions as self-propelled motion to a destination'. The preposition *towards* strengthens the model of freedom of action that in the new context revitalizes a positive and simplified representation of the atomic talks (Lakoff and Johnson, 1999). The purpose of the simplification resides in the fact that a quick understanding for the resetting of the category was necessary in order to put a stop to the growing anxiety that paralyzed American population. In order to do so, more discursive measures were taken, among them the graphic image of an *agreement* that would resolve tensions between Eastern and Western blocs.

Moving is Agreement

At this point, once the idea of a new path was settled, movement represented the agreements that both Russia and the United States would sign during these years. We can understand agreement as 'coming into accord'.[14] In this specific situation, two entities traveling different directions along a path converge in order to follow, or agree on the same course. Consequently this conceptual frame can be interpreted in terms of AGREEMENT IS THE DESTINATION OF THE JOURNEY. This is not a type of direct word-related metaphor but rather a metaphorical contextualization in which Russia and the US, who had been competing for supremacy in atomic research, joined forces in order to achieve a common goal: to maintain world peace (PEACE IS AGREEMENT). Within the examples related to agreement there are two different levels of conceptualization: as part of the SOURCE-PATH-GOAL schema and as a representation of the moral benefits of reaching that goal.

A tone of conciliation appears evident in the rhetoric of nuclear discourse at this time. Both nations needed agreements in order to halt the atomic race, which had reached disquieting levels of alarm during the previous decade. The atomic superpowers needed desperately to *understand* each other in order to converge upon a common point of wisdom and good sense. Russia and the US planned a series of meeting in which they would discuss possible ways of putting an end to their atomic differences. In fact, newspapers depicted these talks following the models of a SOURCE-PATH-GOAL schema in a very graphic way where AGREEMENT IS REACHING A COMMON GOAL:

[14] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/4159?redirectedFrom=agreement#eid (Last time accessed 19/1/2014)

(1) The nuclear powers have reached agreement among themselves (8/6/63, LAT)

(2) Yesterday, a shaft of light cut into the darkness. Negotiations were concluded in Moscow on a treaty to ban all nuclear tests in the atmosphere, in outer space and under water. For the first time, an agreement has been reached on bringing the forces of nuclear destruction under international control (7/27/63, NYT)

(3) But the tone of all that was said, jointly and separately was one of hope that some form of agreement can be reached (12/23/69, WP)

(4) Thus, it may well become more difficult to reach an agreement vitally important matters as multiple warheads, in which the United States has a vast superiority (11/21/72, LAT)

On a basic level, to reach is 'to extend or stretch out (a limb, hand, foot, etc.) from the body,' while on a figurative one, 'to arrive somewhere'.[15] Reaching agreement is a conceptualization based on the principles of the JOURNEY schema. Besides, the use of this image provides agreements with a degree of volition, based on the fact that to reach is a verb that implies an agent. This metaphorical use of the verb to reach is essential to the correct interpretation of the talks within the new optimistic perspective of the nuclear category.

Agreement is Business

Once the goal has been reached, the atomic atmosphere can be released from its tensions. However, in order to bolster the positivity of this new representation, the goal must be attractive enough to engender excitement amongst the text-receivers accomplishing it. In order to do so, language of nuclear discourse became more relaxed and cordially constructed. One good example is the representation of AGREEMENT IS A BUSINESS in which journalists had moved from the CONFLICT domain into more reasonable

[15] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/158816?rskey=U2BCpS&result=3&isAdvanced=false#eid and http://www.macmillandictionary.com/dictionary/american/reach correspondingly. (Last time accessed 19/1/2014)

terms based on metaphors of TRADE. The metaphor POLITICS IS TRADING denotes a feeling of more civilized relationships between Russia and the US:

(1) History will eventually record how we deal with the unfinished business of peace, but each of our government can and will play an important role in determining what future historians will report (8/6/63, WP)

(2) The two sides expressed satisfaction with the businesslike atmosphere and the process being made (12/23/69, CT)

(3) Both were concerned that the quiet, businesslike nature of their talks so far might be colored and eventually dispelled by the propaganda that attends the Disarmament Conference (12/23/69, NYT)

(4) Informed sources said after the meeting that the delegates were 'getting alone with their work' and that the meeting was serious, businesslike, and free of polemics (5/23/70, NYT)

Business here operates in two different conceptual frames. For a society such as that of America, with its solid capitalist principles of commerce, it defines the event of the atomic talks in terms of cordial, optimally profitable interaction. Similarly, as mentioned in the previous chapter, since financial transactions can be conceptualized as a moral action (Lakoff and Johnson, 1999: 291), business functions, as well, as a moralizing element that attempts to *purify* the already saturated atmosphere in which nuclear affairs were taking place.

In fact, the main goal of nuclear discourse during these years was to ease the atmosphere of panic prevailing in the environment in order to institute a more beneficial climate. In line with that conception, agreement is also lexically represented as a good atmosphere that ironically contrasts with that vision of radioactive pollution extensively employed during the previous period. The metaphorical tension within these examples would be MENTAL ATTITUDE IS PHYSICAL ATMOSPHERE:

(1) Moscow radio said the agreement creates an atmosphere favorable for solving other vexed questions (7/27/63, CT)

(2) Communist officials said the soviet union was extremely satisfied with the substantial issues considered in the talks, as well as with the very businesslike, yet cordial, atmosphere of the discussion (12/13/69, WP)

(3) The two sides expressed satisfaction with the businesslike atmosphere and the process being made (12/23/69, CT)

(4) The second round of the Strategic Arms Limitation Talks be-tween the United States and the Soviet Union begins this morning in Geneva amid an atmosphere of cordiality and guarded optimism (11/21/72, LAT)

Atmosphere can be figuratively defined as 'surrounding mental or moral element, environment. Also, prevailing psychological climate; pervading tone or mood; characteristic mental or moral environment; fascinating or beguiling associations or effects'.[16] In any trading transaction a good environment is desirable in order to achieve success. However, given the context in which all these actions took place, the contrast between the purified environment of the *atomic talks* and the threat of radioactive clouds goes beyond a basic interpretation to gain a deeper subtext of interconnected meanings in which the dichotomy between bad Russia and good United States is almost completely erased.

More importantly, not only must the atmosphere be pure, there should also be a better future of hope and peace. Newspapers represented that model of a promising peaceful future by means of different conceptual metaphors related to the condition of reaching a goal. Indeed, agreement is normally represented as a *lasting* peace, the final goal of this conjoined journey:

[16] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/12552?rskey=quzNOg&result=1&isAdvanced=false#eid (Last time accessed 19/1/2014)

(1) Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace (8/6/63, NYT)

(2) A communiqué from the Big Three powers hailed the pact as an important first step toward world peace (8/4/63, LAT)

(3) The United States, Britain, and the Soviet Union signed a treaty banning most nuclear tests today and hailed it in a statement as an important first step toward world peace (8/6/63, WP)

(4) It said their governments the partial ban on testing as an important initial step towards the lessening of international tension and the strengthening of peace (8/6/63, CT)

These examples are all from the same date, June 8th 1963, around the time when the US and Russia were about to sign a nuclear test ban. As is evident, the narrative in all the different newspapers is quite similar: peace is conceptualized as a physical goal that the two superpowers can reach *via* agreement.

Indeed, once the problem of nuclear energy has been channeled within the course of the atomic talks it is time to move on and present actual solutions. Sometimes the representations of the goal of atomic talks were based on the perception of hope for a better future for mankind, as the following examples show:

(1) Macmillan Says He and Kennedy View Test-Ban Talks Hopefully (7/4/63, WP)

(2) I speak to you tonight in a spirit of hope. Eighteen years ago the advent of nuclear weapons changed the course of the world as well as, the war (7/27/63, NYT)

(3) At this point, Hailsham interrupted to say: We hope this is the beginning of many good things (7/26/63, CT)

(4) As you and your Soviet colleagues begin a new round of discussions, you have with you the hopes of all the American people-and indeed the hopes of all mankind. (11/22/72, LAT)

The basic conceptualization of hope is based on the lexical selection in which the implications of hope are trust and confidence: two elements that bridge the existing confrontational gap between the two superpowers in order to build an image of joint

forces. In fact, in contrast with the powerful images of destruction of the previous stage, BUILDING metaphors consolidate a sense of safety and a hope in a better future:

(1) A document which may mark an historic and constructive opportunity for the world deserves an historic and constructive debate (7/27/63, NYT)

(2) We look forward to several days of good constructive work together (8/4/63, CT)

(3) From here we hope to go on to other agreements and our countries…we look forward to several days of good and constructive work together (8/4/63, LAT)

(4) We have taken the first step and the foundation for new agreements has been created (11/22/72, CT)

From the beginning of the Atomic Age, the discursive anatomy of the nuclear category was partially based on the container metaphor. During different stages, this metaphor was used to reflect construction or destruction depending on the ideological mood of the occasion. Considering the positive shift of this period, it is consistent that a constructivist approach would emerge from the new ideological perspective and that building metaphors would take over destruction metaphors to draw a more peaceful picture of nuclear affairs.

In sum, this stage bears witness to a type of discourse that encouraged a change in the understanding of the atomic tensions of previous years. It was based mostly on a dynamic schema in which the US and Russia walk hand in hand along the path of agreement, towards the common goal of lasting peace. This simple structure brought fruitful ideological shifts that eased, at least momentarily, fears of an atomic holocaust.

4.2.2. Metaphors of Control: Link Schema and the Freeze of Nuclear Power

As a general rule accompanying the EVENT-STRUCTURE metaphor, one needs a goal that orients direction. In the case of the new atomic path, the ultimate end of the 'atomic talks' was to find a completion, a termination, for the terrible effects of the atomic race. The idea of stasis remains as a paradoxical vision, indeed, within a frame based on movement and path schemata. The prevailing tendency regarding these talks consisted in the use of metaphors specifying a cessation of motion and action. The main conceptual schemata employed to talk about atomic control were:

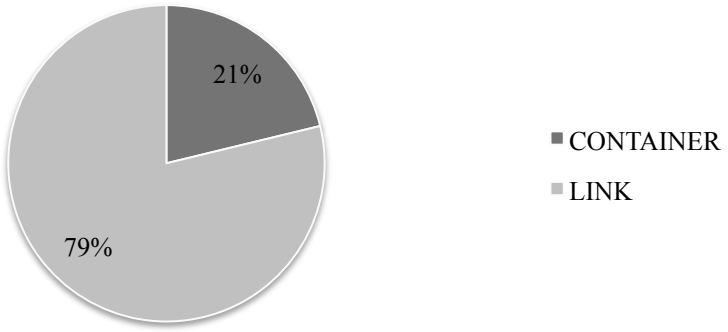


Figure 4.3. Conceptual structure for 'atomic talks'

Control is Cessation of Movement

This was not the first time that the control schema was employed in relation to atomic affairs. However, while in the first stages control was a synonym of power and neutralization of the enemy, during the period that goes from 1963 to 1979 the category projects a different type of meaning. On this new terrain, control was no longer correlated to the containment of Russia's nuclear power. Instead, the actual contextual meaning

inferred from the examples analyzed show how the meaning of control is related to the end of atomic proliferation. The following examples fit with that principal idea of CEASING MOVEMENT IS CONTROL. As previously stated, verbs such as 'to halt' provided a clear ground for a conceptualization of control in terms of JOURNEY:

(1) For these nations, too, and all nations, have a stake in limiting the arms race, in halting the spread of nuclear weapons and in breathing air that is not radioactive (7/27/63, NYT)

(2) The world must move quickly beyond the test ban treaty with new effort to halt the spread of nuclear weapons (6/24/65, NYT)

(3) The need to halt nuclear weapons must be of central priority in the American policy (6/24/65, NYT)

(4) But not until now were the two nations in a position of rough parity in nuclear weaponry, a position that both sides appear to agree is fundamental to halting the spiral (11/17/69, WP)

This complex framing emphasizes the necessity for stopping the escalation of approaching risks posed by nuclear conflict. To halt fit perfectly within the framework of conceptual metaphors that had been employed to describe nuclear matters so far. Along the same lines, a type of link schema emerged with the employment of the word *limitation* or *to limit* to refer to the control of nuclear weapons:

(1) The Strategic Arms Limitation Talks (SALT) that open in Helsinki tomorrow represent the first serious Soviet-American effort to curb their rivalry in nuclear missiles (11/16/69, NYT)

(2) The United States and the Soviet Union formally opened talks to limit strategic armament today with statements in which both sides talked about "mutually acceptable" measures first to limit and then to reduce their nuclear arsenals (11/18/69, WP)

(3) A possible agreement that would include a freeze of the present number of land-and sea-based intercontinental missiles and the limiting of antiballistic missiles to those to project Washington and Moscow (5/23/70, NYT)

(4) The nuclear missiles to be limited at the summit will continue to be aimed at each other. The other agreements are intended to reinforce competing societies, not embrace them in partnership (5/21/72, WP)

To limit could be interpreted here as containing the idea of increase. In fact, the CONTAINER metaphor is implicit in this representation because, in this context, nuclear

proliferation is perceived as a growing entity that must be contained. With the use of the verb 'to limit,' journalists represented the barrier that the atomic path should not cross. Indeed, verbs such as 'to curb', 'to limit' and 'to restrain' are linked to the control of forces (see Johnson, 1980). Curb, a noun originally related to control or restrain a horse: 'A chain or strap passing under the lower jaw of a horse, and fastened to the upper ends of the branches of the bit; used chiefly for checking an unruly horse',[17] evolved into a verb that represent control and containment. However, the basic definition can also be seen here as a kind of wild living entity:

(1) Sorrows across the Pacific have obscured a peaceful possibility of far more enduring importance that is coming to a head across the Atlantic, I mean, the non-proliferation treaty, or NPT, to curb the spread of nuclear weapons (5/12/67, LAT)

(2) Efforts to Curb Nuclear Arms Race Must Continue (12/17/68, LAT)

(3) The Strategic Arms Limitation Talks (SALT) that open in Helsinki tomorrow represent the first serious Soviet-American effort to curb their rivalry in nuclear missiles (11/16/69, NYT)

(4) The talks will also range over the possibility of curbing the quality or armaments, the chances of restraints on antisubmarine weapons yet to be developed, and the old nemesis or verification (11/27/72, NYT)

Curbing the proliferation of nuclear arms is somehow related to that original sense of applying a chain that would keep nuclear energy under control. According to Johnson (1987: 119) 'the link schema must be metaphorically interpreted to apply to abstract objects or connections, since there is no actual physical bond of the required sort to related to the objects'. The employment of the rather explicit metaphor 'to curb' to talk about nuclear proliferation opens up an interpretative dimension in which that proliferation is perceived as finally restrained and under control.

[17] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/45968?rskey=Xz28uo&result=2&isAdvanced=false#eid (Last time accessed 19/1/2014)

Another example in which stoppage becomes essential is the case of *freezing* nuclear proliferation, which constituted a common way to present the armament dismantlement during these years. In this blend, we find different sources that worked together to provide a complex image of the process of nuclear agreements. The most basic meaning of the verb to freeze involves liquid, 'to become hard or rigid as the result of cold'.[18] In a metaphorical sense, liquid water implies the possibility of movement whereas ice tends to remain static. Besides, to freeze indicates to cool down to the point of frostbite. Metaphorically speaking hot could be interpreted as excited movement and in relation to anger and excitement (Kövecses, 2010). Thus, nuclear proliferation was associated with a hot/living entity that must be frozen in order to be stopped. In addition, something that is frozen is motionless, which appears to be the fundamental goal of the controlling apparatus displayed by journalists at this point:

(1) Rusk and Home are hoping to tackle such questions as measures against surprise attack, non dissemination of nuclear weapons, and perhaps the freezing or reduction of national military budgets (8/4/63, CT)

(2) Signature will bring intense pressure on the Big Two to put a freeze on development on strategic weapons–a process already endangered in the discussion on the anti-ballistic missiles (5/12/67, LAT)

(3) As an alternative, therefore, the United States was said to have offered a proposal not requiring on-site inspection that would freeze land-based and submarine-based missiles on each side (5/22/70, NYT)

(4) The second major agreement reached was to place a temporary five year freeze on the number of intercontinental missiles, basically around the current number then in existence (11/21/72, LAT)

The extensive use of this representation served to stop, at least at the conceptual level, the nuclear race. It also allowed the positivity of a new perspective in which the lack of movement implied a cooling off in nuclear relationships between the US and Russia. Indeed, these strategies formed part of the new military campaign proposed by

[18] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/74442?rskey=Zo0CVb&result=3&isAdvanced=false#eid (Last time accessed 19/1/2014)

American government known as Détente.[19] The new strategy, as its name indicates, means: 'the easing of strained relations, esp. in a political situation'; besides, the word détente originates from a French etymology meaning 'relaxation'.[20]

There is no doubt that within this new political view the easing of tensions succeeded in slowing and cooling down atomic tempers. However, these formulas were not as efficient as they appeared a priori, since a fear of a new atomic race lay dormant in the cordial atmosphere of the atomic talks. During the late 1960s newspapers resuscitated the nuclear armament race that came back with a touch of modernization in strategies and terminology, opening up a new understanding of nuclear conflict that would be essential to the interpretation of forthcoming events, such as Star Wars.

4.2.3. Competition Metaphors: the Origins of the New Missile Race

During these '*cold'* years of promising atomic talks, not all discourse was related to the positive view of the new path of nuclear agreements. A concealed fear for a new race and the proliferation of modern armament increased with the years. I argued in the previous chapter that a new trend emerged regarding missile technology: throughout these years, even if timidly, the image of fantastic missiles found a place within the atomic category constituting the future of atomic war. Even so, when the institutional voices claimed that everything was curbed and under control, a small—but still powerful—fraction of news was related to the '*awesome era of fantastic missiles*' soon to

[19] A new policy based on cordial relationships and agreements rather than on the assumption of Mutual Assured Destruction (Franklin, 1988)
[20] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/51205?redirectedFrom=detente#eid (Last time accessed 19/1/2014)

be inaugurated as a resurgence of deterrence discourse.[21] The frames applied to create an understanding of this new nuclear armament race are the usual for these purposes, competition, force dynamic, and threat:

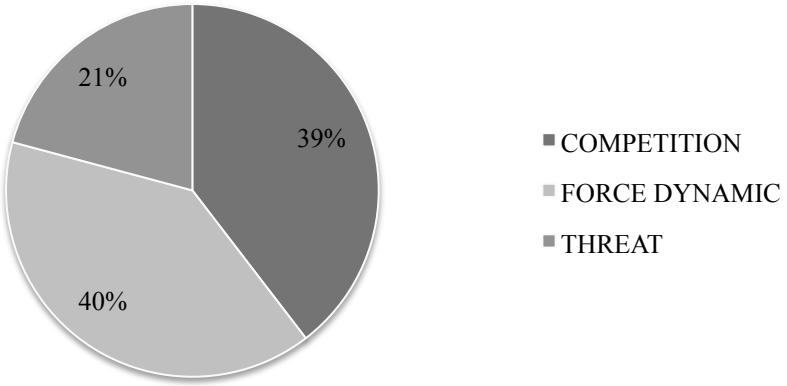


Figure 4.5. Conceptual structures for 'nuclear conflict'

Missiles Are the New Vehicles in the Atomic Race

Throughout the history of atomic weapons we witness the construction of a fantastic world of impossible imagery: from the *cosmic fire* to the *atomic holocaust,* everything related to atomic weapons distilled awe-inspiring emotions. Nevertheless, it was probably around this time that a new stage in the fantasy of the atomic arsenal commenced: the Missile Era. As Chilton (1985, 2006) has pointed out in his books about *Nukespeak*, the names and designation of missiles position the receivers within a very particular perspective of astonishment. In fact, in order to understand the implication of these names in the interpretation of the new atomic race, we have to assume that missiles are metaphorical entailments of a wider frame of action in which atomic affairs are, one

[21] Headline from *The New York Times* (8/29/54)

more time, understood as a race. Missile nomenclature is carefully selected to evoke a universe of incomprehensible might:

(1) MIRVs, in Minuteman III, are due to be deployed in June with submarine base Poseidon. MIRV warheads. American officials have estimated the Russian's could begin to deploy MRV warheads later this year (5/21/70, LAT)

(2) The United States was said to have offered a range of proposals for limiting offensive weapons. The most comprehensive of which would prohibit multiple missile warheads, or MIRV's, as well as any antiballistic missile systems, or ABM's (5/22/70, NYT)

(3) Heavy bombers, technological improvements and multiple warheads which cluster atop launchers were among the topics left for the new negotiating phase (11/27/72, NYT)

(4) In particular, he indicated, that the administration should seek greater restrictions on the large Soviet land-based rockets known as "heavy missiles" and on the soviet bomber known as the Backfire (6/18/79, CT)

The nomenclature is considerably complex in this brief sampling. In some cases, missiles were associated with images of the mythical or supernatural; in other cases missiles were denoted with complicated acronyms—MIRV, ABMs—which according to Schiappa (1989: 253) is a strategy of *bureaucratization* in which acronyms sanitized and insulated missiles from public inspection. As a matter of fact, the semantics of missiles provided a halo of mystery, respect, and incomprehension. While this corpus does not attempt to present a taxonomy of missile names, it is interesting to highlight that authors such as Chilton (1985, 2006) and Moss (1985) have studied the naming of missiles in detail. For example, Moss (1985: 55) states that:

> The names fall into two broad categories, those of fierce animals, birds and reptiles and those which describe attributes. Predictably, most of the terms suggest threat, violence or sinister intent (Prowler, Intruder), whilst the animals are generally either venomous or are hunting creatures, though this is not the whole story. The attributive names suggest intended function. This ranges from the Harpoon and Trident, to be used at sea, to the Rapier, a light, slender sword used for thrusting attacks. Phoenix, symbol of fiery rebirth, also possesses the meaning of uniqueness. Vulcan (the god of fire), Poseidon (sea-god and 'earth-shaker'), Trident (his three-pronged spear symbolizing control of the ocean), and

Hercules (Hero of mythic strength)–all these names connote supernatural power and control.

Naming, as a discursive strategy, fits perfectly within the parameters of the renovated nuclear discourse and the ideological interest of media and powerful institutions to inaugurate a renewed era of deterrence. These definitions outlined the nuclear category with a very special characteristic of fantasy and myth that facilitated the move into the science-fiction frame, which was quite salient during the final stages of the Cold War (1979-1991).

While in these years of *nuclear coldness* the general pattern was to represent nuclear affairs as conducted toward a pace of agreements and peace, there was a discrete branch of discourse focusing on the new technological advantages and the possibility of a new atomic race:

(1) The argument goes on to say that the United States can afford a missile race much better than Russia (12/17/68, LAT)

(2) Mr. Thant also called for an international study of the economic consequences of the arm race (5/23/70, NYT)

(3) MISSILE RACE-This chart shows the degree to which Russia has overcome U.S. missile superiority since 1965. Nuclear balance today hangs only on America's superiority in bomber-based weapons (5/24/70, LAT)

(4) Rejection of the treaty would lead to a costly now arms race and possibly "superpower confrontations." (6/19/79, WP)

In the new atomic race, missiles have replaced cars, and the path, which used to be depicted as a road over physical terrain, has moved into the outer space. In these shifts, container and path schemata are fundamental tools. Moreover, Russia, which over the last decades had gained sufficient nuclear might, is now represented as a defiant competitor whose missiles can potentially lead the race:

(1) Russ to Take Nuclear Lead, Expert Says (3/25/68, LAT)

(2) Both the Russians and the United States are developing multiple warheads for their missiles but there are indications that the United States is lagging behind (3/25/68, CT)

(3) In strategic terms the Americans had little choice. They had allowed the Russians to pull ahead in offensive weapons because they were themselves concentrating on more sophisticated multiple independently targeted reentry vehicles (MIRS-VS) which gave them more warheads, and they meant to go on with them (8/2/72, LAT)

(4) Russ Seen Leading in Nuclear Buildup: SOVIET BUILDUP (3/4/74, LAT)

There was nothing new in the type of conceptual formulas employed by newsmakers, which went back to old frames based on supremacy, speed, or physical movement. In fact, the tendency—especially at the end of this period—was to reinforce the model of Russian strength and leadership. This overhaul of the atomic category provided a dark image of uncertainty and vulnerability. For the reconfiguration of the nuclear race newspapers employed frames based on conceptual metaphors such as ACTION IS MOTION in which Russia is actively building up nuclear supremacy:

(1) The energetic Soviet build-up of recent years (5/27/72, NYT)

(2) The resulting uncertainties would impel the United States to overbuild its own forces in compensation, further stimulating the Soviet build up (7/30/70, NYT)

(3) Russ Seen Leading in Nuclear Buildup: SOVIET BUILDUP (3/4/74, LAT)

(4) The soviets are indeed building up their forces (2/20/77, WP)

These examples comprise the main turn that the nuclear category underwent during the last years of this period. Based on a conceptualization of motion as action, and building up as a strengthening of the enemy, the bottom line was that the age of the atomic talks was coming to an end and that more aggressive drives should began to be planned.

In fact, vulnerability started to be present within the atomic discursive universe deployed by the media. An idea that would be crucial to make the veering into a discourse of confrontation possible, vulnerability appeared at the end of this period as a remnant of the concept of states as buildings:

(1) In sum, the fewer the available defenses, the more vulnerable each superpower remains to massive retaliation. The more vulnerable it remains. The fewer the temptations to risk an attack (5/27/72, LAT)

(2) In effect, the United States and the Soviet Union are on the paradoxical path of increasing negotiation and collaboration in the art of assuring each other's vulnerability to attack (5/27/72, LAT)

(3) A pact of indefinite duration which restricted defensive antiballistic missiles to 200 on each side, thus leaving both sides vulnerable to attack (11/27/72, NYT)

(4) Moreover, it helps us to respond much more effectively to our most pressing strategic problem, the prospective vulnerability in the 1980s of our land-based missiles (6/19/79, NYT)

In the new scenario, the political orientation shifted from détente into deterrence in what can be seen as a return to already established formulas of warfare. This change in the pace and typology of nuclear discourse attended to certain political interests that required a revision of the ideological understanding of US-Russian relations. While the tranquilizing atmosphere of the atomic talks lasted for more than a decade, by the end of the 1970s it was an already exhausted formula whose days were numbered.

4.3. Text Reception of the Atomic Talks and the New Race

While this is considered a period of atomic indifference, at the discursive level it is a rather remarkable time when media language focused on a rhetoric of reconciliation. Grounded on the journey toward peace in which Russia and the US are cordially participating, discourse from this time appears to be in a state of temporary abeyance. Journalists abstained from a discourse of conflict to focus on the *agreement* mood. More than 65% of the examples of the corpus were related to conceptual metaphors of path or movement. This is the time of consolidation and extensive use of the JOURNEY schema to describe peaceful purposes. In terms of categorization, in this apathetic phase there are substantial changes in the way the atomic category is represented. For the first time in the history of the atomic age, there is no confrontation between the two blocs and all negative aspects of former periods—such as radiation or thermonuclear bombs—are relegated to a secondary, almost invisible, position. In this new model of atomic talks the schema of CONFLICT has been replaced by AGREEMENT. The path, which used to be conceptualized in terms of tight RACE has become a more relaxed and passable ROAD leading to PEACE.

It could be argued that media discourse had shifted from a discourse of opposition to a discourse of cooperation. The use of simple images based on primary metaphors effortlessly understandable by the audience reflects this tendency. In the new strategic discourse principles of cooperation are applied to text-production following conversational maxims, in particular the maxim of manner, to provide a clear and simple message of collaboration. The simplicity of the new mental schema, mostly based on a JOURNEY metaphor, aligns with the idea of brevity, clarity, and unambiguity (Hart, 2010: 39). The simplification of the category attends to pragmatic purposes of cooperation

where referential strategies reverse to present in-group and out-group in a shared disposition for agreement. In this stage former inter-group menaces, such as the threat of invasion, are neutralized. The primary schema in this new context is based on collaborative processes. Similarly, competition and conflict are marginalized and a model of cooperation and altruism is established between the two superpowers. The use of conceptual domains such as AGREEMENT or BUILDING project an image of common effort that evoked more in terms of intra-group affiliation than competitive inter-group conflict (Hart, 2010). In the new political arena, the US and Russia, rather than being two opposing groups, were part of the same general category of mankind, which allowed for a conceptualization of intra-group altruist collaboration (Hart, 2010).

The new perspective provoked a growth in disinterest and indifference toward nuclear issues—these are no longer *hot* years in the Cold War. In fact, in these years, public opinion was much more concerned with other issues (primarily the Vietnam War) and the threat of an atomic holocaust was—if not out of sight—out of mind. The total involvement of people in atomic affairs is difficult to measure because this phase in atomic history is not well documented in terms of public polls. Smith (1988: 559) points out, 'the lack of any appropriate surveys at that time makes this impossible to confirm. Likewise, the dearth of world/nuclear war expectation questions during the late sixties and seventies leaves this period unmapped'. Nonetheless, there are some data that indicate acceptance and relaxation among those surveyed. In 1977, for example, people were asked about civil defense. The bottom line of the study was that 'the American people reveal a glaring lack of awareness of the civil defense system in their communities' (Gallup, 1978: 960). As Boyer (1985: 355) writes, 'in 1959, 64 percent of Americans

listed nuclear war as the nation's most exigent problem. By 1964, the figure had dropped to 16 percent. Soon it vanished entirely from the surveys'.

In that line, text-receivers, who seemed more confident regarding peaceful US-Russian collaboration, endorsed the idea of cooperation and intra-group relationships. According to a survey carried out by Louis Harris and Associates in 1973, 66% of the population felt that the relationships between Russia and the United States were improving (Smith, 1983: 281). The same company in a similar survey asked: '*Do you think it is possible for the United States and Russia to reach long-term agreements to help keep the peace or do you think (that) this is not possible?'* In 1970, 51.8% of those surveyed said that they can reach agreements, in 1971, 53.6%, in 1972, 55% and in 1973, 69.2%. After that year there is a decrease in optimism (Smith, 1983: 285). Equally relevant are the data from several polls carried out from 1978 to 1980 by *National Broadcasting Company/Associated Press* where more than 65% of the population claimed to be in favor of new agreements between the US and Russia to limit nuclear weapons (Smith, 1983: 287). These results confirm, at least in part, the ideological strategy undergone by institutions to create a better and brighter image of nuclear relationships of cooperation.

They might also result from causes based on the extenuation of the fears and anxieties of former periods. According to Lifton and Mitchell (1995: 337), nuclear anxiety produced a sort of physical numbing, 'a diminished capacity or inclination to feel'. This numbness lent a certain degree of disdain towards nuclear affairs, which facilitated the malleability of the mental understanding of nuclear affairs. This would be when the dreamed 'Atoms for Peace' campaign began to have some sway over public

opinion, perhaps due to that incapacity to feel combined with much more positive strategies depicting hope rather than despair. In 1976, a survey about nuclear power plants asked participants '*Have you heard or read about the discussion concerning the construction of nuclear plants?'* A total of 77% of the population said 'yes'. Similarly, when asked *'In order to meet the future power needs of the nation, how important do you feel it is to have more nuclear power plants–extremely important, somewhat important, not too important, or not at all important?'* For 34% of the people it was 'extremely important', 37% considered it as 'somehow important' (Gallup 1978: 796-98).

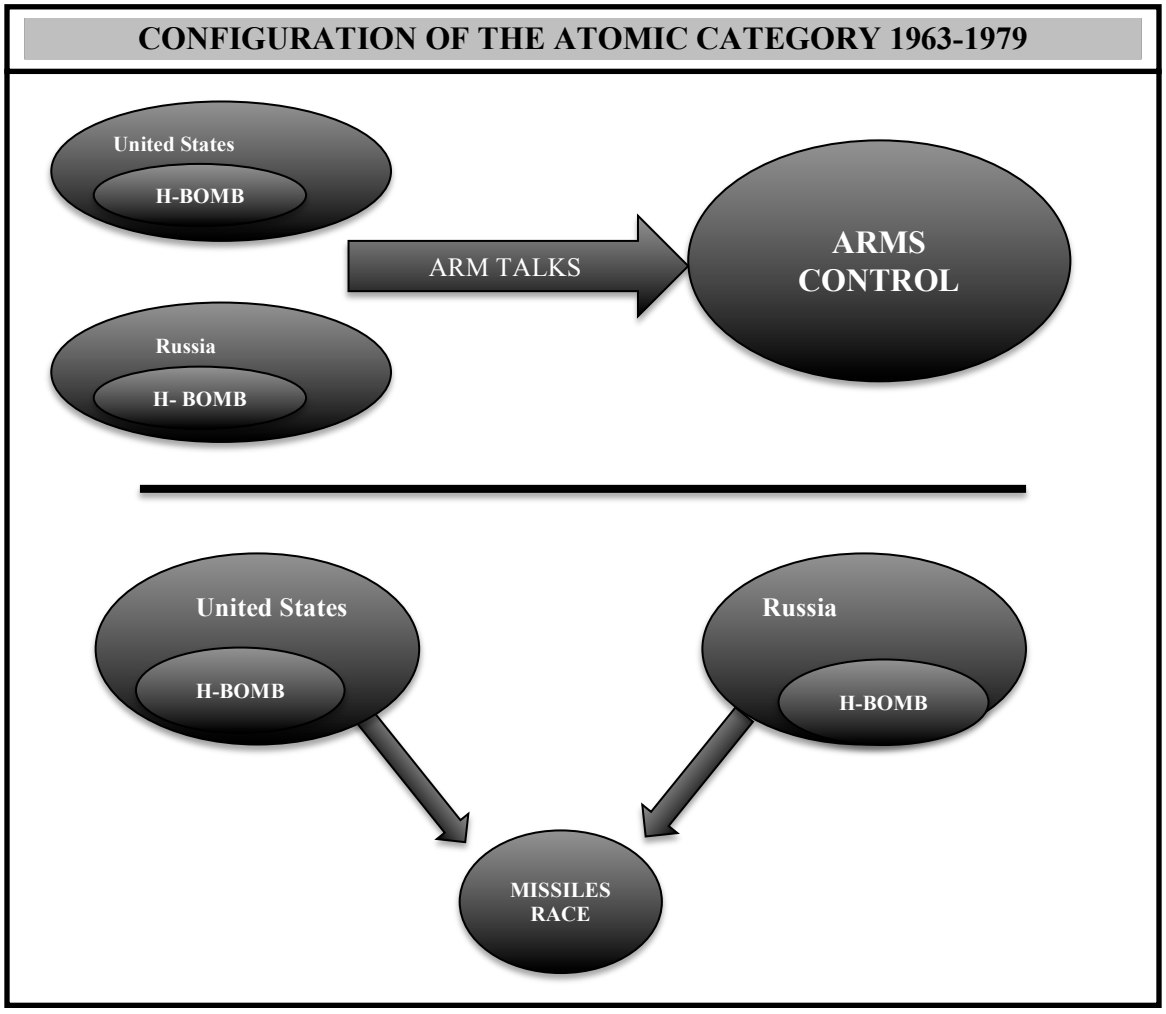
The indifference of this time can be interpreted as a response to a mild, non-belligerent type of discourse that mitigated the heated spirits of former periods. But the fact that certain apathy prevailed as the response to a non-prominent stage, does not mean that the nuclear issue was near an end. Instead, text-receivers experienced a global change in the atomic order. As Boyer (1989: 358) explains, 'by the 1960s, nuclear strategy had become an esoteric, complex pursuit involving computers, game theory and specialized technological vocabulary'. The new way of looking at nuclear warfare was through the prism of new technology and modernity, and of course, the renewed idea of the nuclear race. Public opinion, even when barely exposed to the new model of fear, began to understand in modern terms the actual significance of nuclear war. In fact, in the 70s concerns about security were still in the air and 40% of people asked about nuclear testing thought that 'nuclear operations should be cut back until more strict regulations [could] be put into practice' (Gallup 1978: 796-98). Despite the dominant trend of cordial nuclear relations between the two superpowers, a latent fear of nuclear war hangs over the American people during this relatively peaceful period. In a survey carried out by

Gallup Polls in 1973*,* to the question *'If there should be another world war, do you think the H-bomb (Hydrogen bomb) will be used against us?'* a total of 65% of those surveyed answered positively (Smith, 1988: 567).

In fact, once the Vietnam War was over—and more specifically when in 1979 Carter revoked SALT II following Russia's invasion of Afghanistan—the Big Sleep Era came to an end (Gaddis, 2005; Boyer, 1989). In addition, in 1979, a nuclear power plant in Pennsylvania experienced the first serious accident in the history of American nuclear energy plants.[22] The atomic domain acquired, once more, a prominent place on the public stage. After a break of more than a decade—from 1963 to 1979—newspapers again the process began to stir up specters of atomic anxiety. Emotional cues elicited—by means of similar discursive strategies—fears and uncertainties from text-receivers who began, thus, a progressive adaptation to the new missiles race.

Strategic discourse of this period exhibited a sort of duality that was employed by media to define the mental map of the atomic category. One the one hand, a new representation based on political and military agreement had come to occupy the whole mental category. On the other, there was a slow return to the model of fear and confrontation of former years that would be the dominant model by the end of this phase. Correspondingly, the mental image that text-receivers were likely to form was now two-fold, as the following graph shows:

[22] Three Mile Island, a nuclear power plant in Pennsylvania, suffered a partial meltdown.



In a first stage, the type of language employed by newspapers reflected and reinforced the general belief of a more amiable and warm atmosphere of talks and common goals; however, later on, the structure of the mental model came back to formulas based on shared knowledge and old schemes, such as RACE, CONFRONTATION, or NUCLEAR HOLOCAUST.

Within the type of language employed by the media, we can claim that there was a swerve in the ideological category describing the group schema. The fact that this new ideological turn took place is due mainly to the way news writers advocated for a model

of shared goal, eased tension, and single path that was so popular for more than half of the period in question. The constant iteration of terms such as 'steps towards peace', among others, aided to generate an optimistic mood that enabled a slight change in the ideological message implicit in the idea of the atomic talks. The following table shows the structure of this new scheme:

IDEOLOGICAL CATEGORY DESCRIBING 'THE ATOMIC TALKS'	
MEMBERSHIP	We are Americans
TASK	We want to stop nuclear tests
GOAL	To ensure the survival of the human race
NORMS & VALUES	Russia and the US believe in world peace
RESOURCES	Russia and the US have the will to stop nuclear tests
POSITION	We are heading towards the same point of agreement

Table 4.4.a. Ideological schema of the 'Atomic Talks'

However, this apparent prosperity would soon be dampened by the threat of the resumption of the atomic race. With stakes high, by the late 60s newspapers started to promote the vision of an uncontrollable missile race that would bring back former fears and reinstate an ideological frame of conflict in US-Russia military policies. At that time, the group schema became somewhat modified by the fact that new potential risks needed to be incorporated when thinking about atomic energy:

IDEOLOGICAL CATEGORY DESCRIBING 'THE ATOMIC AGE' FOR 1963-1979	
MEMBERSHIP	We are Americans
TASK	*We want to stop nuclear tests*, but also we want to lead the race
GOAL	*To ensure human survival*, but also to lead the race
NORMS & VALUES	Russia and the US believe in world peace
RESOURCES	*Russia and the US have the will to stop nuclear tests*, but also we have the power to lead the new missile race
POSITION	*We are heading towards the same point of agreement*, but we are also competing in the same race

Table 4.4.b. Ideological schema for the 'Atomic Age' 1963-1979

After a break of more than a decade—from 1963 to 1979—newspapers started again the process of stirring old images of atomic fear to create the sense of uncontrollable atomic anxiety. The public, after a short break, came back to fear the anxiety of the nuclear threat.

5. BACK TO THE NUCLEAR THREAT: 1980-1991

Titan Missiles

'It is that we embark on a program to counter the awesome Soviet missile threat with measures that are defensive'
(President Reagan, 1983)

5.1. Star Wars

In President Carter's farewell discourse in 1981 an inkling of former fears could be perceived. During the 1960s and 1970s the cordial atmosphere had led leaders of both Russia and the US to sign agreements that kept nuclear warfare at bay (SALT I and SALT II, for example); however, a new belligerent mood began to grow after the invasion of Afghanistan by Russia in 1979. Once more, the shadow of nuclear conflict was projected over the political arena, favoring the reinstating of an atomic competition oriented toward the production of new and more sophisticated armament, in what can be understood as the modernization of nuclear warfare (Franklin, 1988).

Hitherto, the situation was not the same, since Russia appeared as a formidable and the model of deterrence and counterattack no longer appealed as a solution. In the early 80s, probably instigated by the attitude generated by losing the Vietnam War, America capitulated to the threat of a *Window of Vulnerability* regarding its position in the nuclear conflict as the weakened competitor (Linenthal, 1989). These were years when the strategists realized that new solutions were required in order to stop Russia from dominating the technology of nuclear warfare.

Indeed, during these years the nuclear lexicon entered a new stage of sophistication. As discussed in the previous chapter, missiles with persuasive names and unimaginable functions had replaced the more archaic bombs. In former decades different treaties and defense strategies had been the breeding ground for a new mystified period. Now the two superpowers were supposed to possess hundreds of intercontinental missiles that would have torn the world apart in minutes. Mutual Assured Destruction, a formula that along with deterrence had been successfully applied in former occasions, seemed to

have been exhausted. The new president, Ronald Reagan, was aware of the difficult situation the country faced. Russia had the potential to attack the US any moment and the policy of retaliation did not constitute a viable alternative.

A new tactic was necessary, and it took the form of the Strategic Defense Initiative (henceforth SDI). This new strategy was a model of defense, dissuasion, and containment based on neutralization of the enemy rather than attack. In 1983, President Reagan gave a speech that would become a milestone in a new period of nuclear uneasiness. Immediately known as the '*Star Wars*' speech, during the next few years it marked the rhythm of the most fantastic period of the Atomic Age. SDI was a defense program that intended to create an anti-missile shield capable of protecting the American people from potential nuclear attacks. New labels and fears would appear under the scope of SDI. The political move brought back an alarmist disposition on political and media discourse that fostered fears and uneasiness among the American people. Truly, text-receivers were constantly exposed to information about the chances of a terrible all-out nuclear war that would eclipse the sun for months or even years, and would mean the end of mankind. One of the highest peaks in nuclear confrontation was to be reached in November of 1983—after the incident of Korean Air Flight 007—when NATO put into operation Able Archer 83, a ten-day rehearsal of a nuclear attack.[1] For the first time in a long period of almost two decades, the threat of a nuclear war had become tangible.

Tensions between the US and Russia were palpable. The threats of a powerful Russia willing to initiate a nuclear war augmented considerably. Fears of radioactive clouds circling the globe, along with the chances of a nuclear winter that could freeze the

[1] An aircraft was shut down by Russian authorities when it violated some restricted air space, this event occasioned intense tension between the two blocs (Wills, 2010).

entire planet constituted sufficient reasons to halt atomic competition. It was time, just as after the Cuban Missile Crisis, to reform the models and strategies regarding nuclear affairs. President Reagan, after having understood that SDI did not have the capability to eliminate the nuclear threat, was ready to embrace talks, agreements, and negotiations as the new political perspective in nuclear questions. In 1985, with Gorbachev as the new Russian leader, conversations began to be plausible. Finally, after decades of tension, the two superpowers were on the same page and had the same purpose: to put an end to the arm race, the potential of a nuclear holocaust, and the Cold War. Indeed, after the Chernobyl disaster in 1986, Gorbachev definitively abandoned the aggressive policy of former decades, giving way to the '*zero option*' proposed by Reagan. In 1986, indeed, the two leaders met in Iceland to discuss the possibilities of disarmament. Talks were not easy, as Gorbachev was still reticent about SDI, and the first attempts at nuclear negotiations were fruitless. Still, some hope remained in the air and the following year, in 1987, both countries signed an agreement to destroy intermediate-range missiles.

It was the beginning of a slow *meltdown* of the Cold War. In the years that followed, the Communist threat dissolved. The Berlin Wall fell in 1989, the U.S.S.R. crumbled in 1991, and the nuclear threat remained as an '*anecdotal'* event of the past frozen in the American imagination as a time of anxiety, destruction and death.

5.1.1. Media and the Atomic Imagination

This short spam of time—a mere decade—captured all the different approaches that the Atomic Age had experienced since the explosion of the first Atomic bomb. The range moves from the fears of a fulminant atomic holocaust to the hope of a world free from nuclear threats. The media, in this arena, needed to be more effective in seizing the

political mood and successfully transporting it to text-receivers. First, by coding in a convincing manner the idea of vulnerability and threat, reporters focused on the flaws of a weakened America that could be attacked at any moment by the eternal communist enemy. In addition, the media presented in a very graphic way the chances of a devastating nuclear war; this representation awoke the most deeply rooted fears, emotionally preparing public opinion to embrace Reagan's 'Strategic Defense Initiative'.

In fact, this new strategy of a space shield was not really viable. In order to project a cogent tone, news writers had to appeal to the image of American determination to achieve impossible goals. The media exploited emotional strategies, appealing to American ideals of the man on the frontier. In this case, however, the frontier was outer space. By means of a cultural background partly based on the science fiction landscape, newspapers crafted a manner of interpreting the ultimate nuclear race as a war in space.

What the media probably was not expecting was the quick resolution of the Cold War. In less than five years, newspapers had to shift from the discourse of *the laser wars* (1983-1984) to *the new roads towards peace* (1985-1991). Certainly, in the last years of this period, reporters abandoned their eloquent and effective discourse of terror to move on to the formulation of the atomic talks previously employed during the 60s. Even when their articles disclosed a certain degree of distrust in the agreements, by the end of the 1980s, newspapers had established a new pacific perspective in nuclear affairs. When the Cold War was officially terminated, the atomic category lost its relevance and started to be left behind—*frozen* in the American imagination. The time of sensationalist headlines regarding the Atomic Age had come to a prompt conclusion.

5.2. Metaphors of Vulnerability and the End of Nuclear Conflict

During the period that goes from 1980 to 1991, there are two different trends within the media: the first, a discourse of fear that aims to represent atomic vulnerability (from 1980 to 1985 approximately), progressively gives way to the second, a compelling discourse of talks and agreements (from 1985 to 1991). During the period that goes from 1980 until 1985 newspapers employed a discursive model similar to that used during periods of conflictive tension—such as the 1950s. Later on, once both superpowers were willing to negotiate and put an end to their atomic rivalry (after 1985), media discourse moved into more quiet waters, appealing to the simplification of the category, which followed a schema of common goals and paths towards agreement. The following table shows the distribution of the data analyzed:

TOPICS AT THE GLOBAL LEVEL	*T: 256*	*%*
THE WINDOW OF VULNERABILITY	114	44%
DEFENSE/OFFENSE	80	32%
THE END OF THE CONFLICT	62	24%

Table 5.1. Semantic macrostructures 1980-1991

As it can be noticed, while the discursive division is balanced in terms of time, there are more data related to problems of vulnerability and defense than to the actual termination of the conflict. In fact, the idea of *the window of vulnerability* caused a stream of headlines related to the latent dangers of a Russian attack (43%). At this point in the 80s, the category for nuclear energy is an entangled network of interrelated images. This illustration is based on complex contextual meanings that are taken for granted by both text-producers and text-receivers. Needless to say, the container schema plays an

extremely essential role, as it did during the 1950s, in portraying a sense of vulnerability. In addition, at the level of representing vulnerability and potential threats, conceptual metaphors such as POLITICS IS CONFLICT or ATOMIC RESEARCH IS A RACE intertwine with innovative blends such as NUCLEAR WINTER—which combines domains of contamination and weather with those of destruction and death, ultimately providing a dialectical image rooted in immorality and despair.

Indeed, in light of the potential vulnerability, the government decided to undertake a renewed defensive strategy that newspapers narrated with great fanfare (33%). Beneath the modernization of atomic discourse, basic conceptualizations (extensively employed during former periods) remained at the foundation of the category. Thus, force dynamic schemata proved essential to the representation of this new offensive escalation. The measures taken to represent atomic defense were also awe-inspiring, presenting a new multifarious array of primary and cultural metaphors. Among these, metaphors such as PROTECT IS SHIELD and SDI IS STAR WARS merged together in order to infuse the nuclear arms race with a sense of ultramodernity.

By the mid 80s, however, the acrimonious mood gave way to a final series of talks and meeting that would put an end to the tensions and agitations of the Cold War. This decisive last strait in the long voyage of atomic discourse, nonetheless, does not occupy a remarkable place within tabloids. In fact, journalists described the last years of the Atomic Age using a rather discreet narrative style that demonstrated the growing indifference that atomic affairs aroused in the final years of the Cold War (24%). As in the previous stage—in which atomic talks were portrayed as atomic paths cordially taken

by the two superpowers—the formula is once more applied in a very simplistic, yet effective, manner.

During this stage, the motor schema, which so far has been employed to show how the entire atomic category followed the parameters of a basic schema of movement, can be utilized to explain the vicissitudes of this final stretch in the history of the atomic age. As in previous periods, there are reasons to resume the atomic escalation of terror and menacing weaponry. And as had formerly occurred, conclusive evidence encouraged the two superpowers to put an end to the raw tensions of the Cold War:

MOTOR SCHEMA The end of *the Atomic Age* 1980-1991	
THE MAIN PROCESS	Russia's nuclear might is a threat to mankind
AN OPTION TO RESUME	Defense/Offense: the Star Wars initiative
AN OPTION TO STOP	The dangers of nuclear winter: the end of the Cold War

Table 5.2. The Atomic Age as a motor schema 1980-1991

As we can see in the structure of this period's categorization of atomic events, certain initial turbulence ultimately gave way to a dissolution of the tensions of atomic conflict and cold wars. The end of the Cold War could not possibly be represented in a different fashion, as for more than four decades the main structure of the atomic category was grounded in a motor schema.

These three principal topics—vulnerability, defense, and end of the conflict—are distributed into more specific subdivisions of conceptual representations. The following table shows the main taxonomy regarding the diverse ways in which they were conceptualized by means of metaphorical mappings:

GLOBAL TOPIC	CONCEPTUAL STRUCTURE	LINGUISTIC REPRESENTATION
Vulnerability	CONTAINER	The Us is a house, vulnerability is a window: *The 'window of vulnerability' argument the President*
	THREAT	Using nuclear weapons is nuclear winter: *Earth probably would come to an end in the nuclear winter that would follow a nuclear war*
	FORCE DYNAMIC	The US are objects moving in the same direction: *The United States and the Soviet Union are on a 'collision course' toward eventual nuclear war*
	COMPETITION	The US-Russia relationship is a race: *'Stop the madness! Stop the arms race'*
Defense/offense	CONTAINER	Defense is protection: *President Reagan said today that the Administration viewed a United States space shield against nuclear weapons as moral obligation*
	FORCE DYNAMIC	Defense is offense: *The United states is taking a step toward a war fighting strategy in part because it thinks the Soviet Union has one*
	STAR WARS	Defense is STAR WARS: *A secret government plan has developed a Star Wars mirror for the air force that can beam high-energy lasers*
The end	JOURNEY	The US and Russia are in the same journey: *We can now take steps in response to these dramatic developments, steps that can help the Soviet peoples in their quest for peace and prosperity*
	LINK	Armament reduction is freezing: *Several hundred demonstrators gathered outside the hotel, some supporting a nuclear freeze*
	CONTAINER	The US-Russia relationship is a construction: *In this speech Reagan called for a constructive and working relationship with the Soviet Union to solve world problems, including regional conflicts*
	FORCE DYNAMIC	The US and Russia are joined forces: *The combined strength of U.S. and Soviet forces in central Europe under a pending agreement*

Table 5.3. Conceptual representation of the global topics at the local level 1980-1991

5.2.1. Threat Metaphors: the Window of Vulnerability

When in 1979 Carter withdrew the SALT from congress, a new path was opened regarding relationships with Russia. The atomic race appeared to be coming back to life with unprecedented speed. By 1983, the materialization of quick and effective changes facilitated a sway in public opinion, which now held that United States had a 'window of vulnerability' that should be promptly *closed*. The container schema, employed abundantly during previous stages, operated to draft and identify the problematic situation in with the US and Russia were involved. Americans felt defenselessness and vulnerable in this new context. According to Chilton (1996: 190), the concept of security based on the schema of a safe container was promptly discarded in the era of intercontinental missiles.

There are different degrees within the representation of vulnerability essential to the reconfiguration of the category of nuclear domain: first, the menace of becoming vulnerable to attack; second, the graphic representation of atomic war as the ultimate mode of exterminating human race; and third, the last fashion in nuclear threats, a newly coined term: *nuclear winter*.

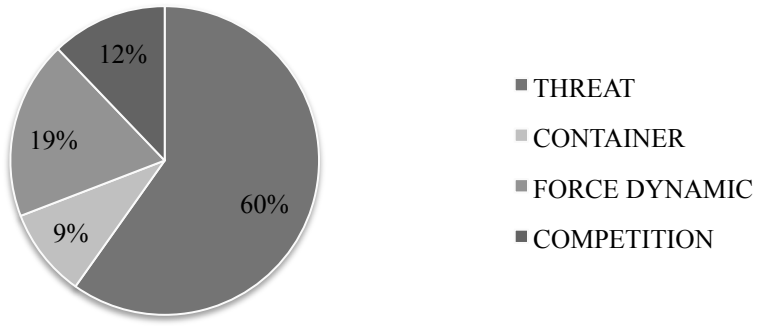


Figure 5.2. Conceptual schemata for 'window of vulnerability'

Vulnerability

At this time, journalists had started to emphasize the concept of 'the window of vulnerability' by means of metaphorical representations that suggested Russian supremacy over the US by means of the container schema. By addressing nuclear relationships between the US and Russia as vulnerability, which is defined as 'painful pressure, oppression, compulsion; vexation, torment; affliction, distress, misery; danger, peril',[2] the whole scene is infused with a sense of menace. There is a tendency to accentuate Russian supremacy and US weakness, making it clear that the AMERICAN HOUSE, a well-established metaphor at this point, is unprotected and susceptible to attack. Actually, in many cases, the term *vulnerable* is explicitly used by virtue of the conceptual metaphor US NUCLEAR DEFENSE SYSTEM IS PHYSICAL WEAKNESS, in which the concept America is mapped onto the domain of physical bodies:

(1) BROWN SAYS ICBM'S MAY BE VULNERABLE TO THE RUSSIANS NOW (NYT, 8/22/80)

(2) The United States military, long use to having a clear edge over the Soviet Union in nuclear might, is being forced to adjust to a new era in which American strategy arsenal is becoming outdated and ever more vulnerable (9/22/80, NYT)

(3) The "window of vulnerability" argument the President often makes rests on the assertion that the Increased accuracy and number of Soviet missiles gives
them the capacity to take out all Minuteman missiles, the land-based U.S. missile system (9/28/81, LAT)

Halfway between the container schema and the personification, the complexity of this metaphorical representation relies, indeed, on the fact that 'to be vulnerable' can also be interpreted as being susceptible to injury or wound.[3] Part of that vision offers an image of America as a living thing (even as a human being) that can be hurt by Russia. The

[2] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/201152?rskey=N9kgu0&result=1&isAdvanced=false#eid (Last time accessed 7/2/2014)
[3] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/224872?redirectedFrom=vulnerable#eid (Last time accessed 7/2/2014)

frame that accompanies this new situation could be that of fight or even war. Consequently, the use of the term 'vulnerable' is in association with the already well-established metaphorical structure POLITICAL RELATIONSHIPS BETWEEN RUSSIA AND US ARE A FIGHT. Nonetheless, we should keep in mind that there is a superordinate metaphor in which the notion of window as a part of the AMERICAN HOUSE lies in relation to the notion of destruction.

Reinforcing a sense of defenselessness, reporters represented Russia by means of hyperbolic images of threat, danger, and power. Turning back to metaphorical models established in former periods, Russia is, once more, identified as a threat:

(1) His statement appeared to make the Soviet threat to the US Minuteman ICBM force more immediate than his forecast (8/20/80, LAT)

(2) ICBMs threatened (9/22/80, CT)

(3) Under the "triad" concept, the United States needed to deploy three different types of retaliatory systems, so that if Moscow were able to threaten one or even two legs of the triad Washington would be still able to respond to a Soviet attack (9/22/80, NYT)

(4) The Red and the Blackmail would be a fitting title for the most recent example of Soviet efforts to intimidate the U.S. and its allies (5/17/89, NYT)

In addition, the representation of the enemy centers on aspects of might and strength that reinforce the frame of physical battle. In fact, metaphors of movement and force are habitual in the depiction of Russia and one common conceptualization is THE SOVIET ATOMIC POWER IS PHYSICAL STRENGTH:

(1) Soviet Ability to Wipe Out U.S. Missile Silos Told (LAT, 8/20/80)

(2) Because we were very much stronger than they at the outset of that period (LAT, 4/13/80)

(3) The parade showed some of the soviet military muscle (11/8/87, LAT)

(4) In the first news conference of his presidency on Jan. 29, 1981, Ronald Reagan summed up his view of the Soviet Union by saying that its goal was world domination and declaring that Soviet leaders "reserve unto themselves the right to commit any crime, to lie, to cheat, in order to attain that...(5/29/88, WP)

Similarly, the strength presented by the enemy bolsters the idea of American vulnerability since Russia is pictured as a living thing with real 'muscle' and the power to 'wipe out' American targets. Such metaphors work together to form a complex network of interrelated meanings associated with vulnerability and defenseless.

We have seen in the previous chapter that journalists employed the concept of *'buildup'* to fortify the new model of powerful Russia. The visualization of Russia as a builder of a growing military system presents basic metaphorical conceptualizations that prove extremely effective in this context. The conceptual metaphor associated to this representation would be DEVELOPING NUCLEAR FORCES IS BUILDING and it is indirectly linked to the schema of freedom and achievement:

(1) The Soviets have now built a war machine far beyond any reasonable requirements for their own defense (4/13/80, LAT)

(2) The logic of minimum deterrence has been lost in frenzied arms buildup. America now deploys more than 10,000 strategic nuclear warheads, at least a third more than Russia, and deploys 7,000 tactical nuclear warheads in Europe alone (7/28/80)

(3) Soviets Hint at Nuclear Buildup (7/17/81, WP)

(4) The Soviet Union has begun a buildup of strategic nuclear forces to counter US attempt to gain military superiority (WP, 7/17/81)

The freedom schema has been extensively employed at different stages of the atomic age to emphasize the necessity of action or to dramatize a lack thereof. At this time, stress is placed upon the increased supremacy of Russia and its potential menace to a United States focused for a decade upon easing the tensions of atomic conflict. Aligned with this conceptualization of Russian buildup, more basic representations of the primary metaphor such as POWER IS MORE work in parallel to strengthen the sense of weakness versus dominance and supremacy. One clear example is the use of the verb 'to grow' to talk about the increase of Russian weapons and power:

(1) There is no disputing that Soviet missile forces have grown larger than U.S. forces and potentially more threatening, nor that the Soviets have a vastly large conventional armed force than the United States (LAT, 8/20/80)

(2) The assumption of the Reagan Administration is that a growing Soviet military presence has led to political advantage (9/28/81, LAT)

(3) Sergei P. Kapitsa of the Moscow Physico-Technical Institute said that His studies demonstrated, "the growth of arsenals" was the real danger (12/12/83, NYT)

Moreover, to grow in its elemental meaning is related to living entities, which in this case reinforce the idea of BODY POLITICS growing in size and power. Along with an imminent growth in power and supremacy; within this context, the path schema plays an important role depicting a sense of attack. Related to the idea of vulnerability and Russian might, models in which a path schema is implicit work to support the conceptualization of POWER IS PHYSICAL ADVANTAGE:

(1) The soviets achieved a strategic weapons advantage from 1975 to 1980 (4/13/80, LAT)

(2) Nuclear Gains by Russians Prompt a Reaction by U.S. (9/22/80, NYT)

(3) President Reagan proposed Wednesday that the United States and the Soviet Union agree to a freeze on atomic weapons, but only after this country has achieved nuclear parity and erased Moscow's definite margin of superiority (4/1/82, LAT)

(4) Andropov derided the notion that "the united states is inferior to the soviet union" in nuclear weapons and cited figures showing that US nuclear forces were substantially improved during the two decades of which Reagan spoke (3/27/83, CT)

In this new atomic role, the general trend would be inclined towards a conceptualization of Russia as on the move, in a position of attack. In fact, the atmosphere seemed to be changing into a pessimistic mood in which the US is portrayed at a disadvantage. This conceptualization is, indeed, the breeding ground for the new military strategies that the Reagan administration was planning. Based on the conceptual metaphor ACHIEVEMENT IS FREEDOM all these representations worked to resuscitate the acrimonious temper of 1950s atomic rivalry. The new metaphorical force dynamic schema is established in order to visually represent the dangers and threats of this new phase of the nuclear race. The following figure shows the schema of vulnerability and threat in the new nuclear relationships between US-Russia:

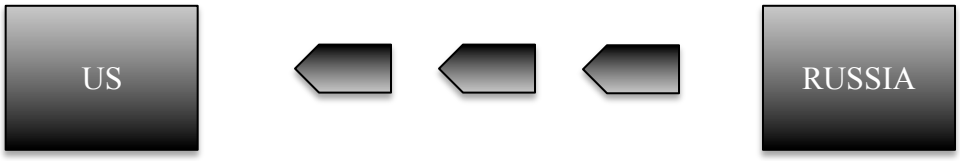


Figure 5.3. Dynamic representation of the US-Russian relationship 1980-1985

While this conceptualization can be perceived as part of the race schema, a structure that is now fully established within the atomic category, the fact that Russia is the only active participant allows a representation that favors the model of attack rather than of competition. The idea of an imminent attack is depicted in numerous occasions by means of the phrase 'first strike' with belongs to the domain of FIGHT:

(1) They say the new MX mobile missile is central in importance because it would be designed to survive even a major Soviet first strike back and destroy such a hard targets (8/6/80, CT)

(2) MX is supposed to be so accurate and invulnerable to a Soviet first strike, and because it is based on land and therefore easy for a president to control, it is vital to the new strategy. (9/22/80, NYT)

(3) Mr. Brown cast doubt on the likelihood of a Soviet "first strike" against American land-based missiles, noting that, at present, the United States would still have the means of retaliating with the two other elements of its nuclear "triad," submarine-based missiles and the nuclear weapons on the Strategic Air Command's planes. (8/20/80, NYT)

(4) He calculated that what is now called the "window of vulnerability"—the moment when the Soviets would be capable of a first strike against the United States—would come in 1954 (9/28/81, LAT)

To strike implies a willing desire of hitting somebody, a premeditated attack that for being the first is absolutely unexpected. Actually, this new framing effectively triggered the initial US reaction: to become more active in the new belligerent context of atomic affairs. One way in which newspapers would stir uneasiness, anxiety, and fear was to revive the darkest aspect of nuclear energy. The idea of crudest war is brought back to light during the first years of this period, reaching a peak between 1983 and 1984.

The Use of Atomic Weapons Is an Atomic Holocaust

One more time, newspapers presented the relationship between Russia and the US in terms of the metaphor US-RUSSIAN RELATIONSHIP REGARDING NUCLEAR AFFAIRS IS NUCLEAR WAR. This representation emerged accompanied by a set of related concepts, such as destruction, death, and atomic holocaust. The whole frame follows the assumption of a potential nuclear war and plays around with the possible consequences:

(1) The possibility that, in a lethal mixture of hubris and despair, we might, one day, feel ourselves compelled to initiate a nuclear war. Such a war might or might not achieve Its object, but I doubt whether the survivors on either side would very greatly care (9/28/81, LAT)

(2) A nuclear war of any scope would mean either the disappearance of mankind or its degradation to a level below the prehistorical (12/9/83, LAT)

(3) Andropov rips Reagan plan as road to nuclear war (3/27/83, CT)

(4) The unites states and the soviet union are now in the threshold of a decision that could make nuclear war seriously thinkable (3/4/84, NYT)

These examples, while not metaphorical per se, are based on the conceptualization of Russia and the US as implied in an actual real war that was, indeed, nonexistent. Nonetheless, in the representation of the nuclear category, that notion of war was becoming a tangible element. In fact, examples show that, on numerous occasions, such representations were rather vivid. The way language portrays the US-Russian relationships is close to the image of a PHYSICAL BATTLE in which two rivals are literally hitting each other:

(1) The US has the ability and the intention to knock out the things the soviet value most, the official said (8/6/80, CT)

(2) A pinch of nuclear punch is as good as a pounding (7/28/80, NYT)

(3) Less emphasis on retaliating against Soviet' cities in the event of an attack and more emphasis than in the past on knocking out Soviet military forces and political and military leadership centers in the initial phase of a conflict (8/14/80, LAT)

(4) But if a potential attacker could calculate that be could strike first knock out most of the other side's weapons, and destroy the remaining ones with missile defenses as they approached (3/4/84, NYT)

Verbs such as ‘to knock out’, or ‘to punch’ belong to the category of physical fight. In this scenario the contextual implications are based on a graphic depiction of Russia and the US as pugilists in a boxing ring. To a certain extent, American culture relies on conceptualizations such as POLITICS IS SPORT to present complex schemata of

rivalry and intense emotion (Kövecses, 2005). However, the representation here veers from the most relaxed context of sport—in which COMPETITION is the implied metaphorical conceptualization—into the domain of actual warlike situation—with a conceptualization such as POLITICS IS WAR.

The basic element of these conceptualizations relies on the metaphor of NUCLEAR NEGOTIATION IS A FIGHT/BATTLE. Elements belonging to those scenarios are used to create an image-schema context reminiscent of war times. Even when the chances of war are remote, the atmosphere is colored by a hostile mood. Within the war schema, the idea of retaliation is vividly powerful as it depicts the active role of the participants in a nuclear conflict:

(1) President Carter has formally approved a refined nuclear strategy to deter a Russian attack by making the soviet-military industrial machine and leadership apparatus prime target for American retaliation, defense officials said (8/6/80, CT)

(2) Mr. Brown cast doubt on the likelihood of a Soviet "first strike" against American land-based missiles, noting that, at present, the United States would still have the means of retaliating with the two other elements of its nuclear "triad," submarine-based missiles and the nuclear weapons on the Strategic Air Command's planes. (12/3/83, NYT)

(3) This would reduce the Specter of the MX as a first-strike weapon, since if it could survive it could be used in retaliation (3/4/84, NYT)

(4) We would be back were we started from: deterrence by retaliation (1/12/86, LAT)

Retaliation, which can be defined as 'to take revenge for an injury, insult, etc.; to attack in return',[4] implied a return to model of two opposing blocs set in a collision course. And while not a lexical metaphor, this representation reinforced the model of conflict in which the US and Russia appeared to be imbued one more time.

[4] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/164167?rskey=S4KBrm&result=1&isAdvanced=false#eid (Last time accessed 7/2/2014)

The bellicose mood significantly increased during this time, especially if we compare the tone with that in the former stage of the "atomic talks". It seemed impossible a return to the crudest nuclear discourse, however it was. For example, upon a landscape in which nuclear war could be possible at any time, destruction became, one more time, a powerful image that revived the anxiety and fears of an early Atomic Age. It is interesting that one of the military strategies during those days was Mutual Assured Destruction:

(1) The military theory of mutual assured destruction has endured as one of the few brilliantly simple formulas of nuclear strategy (3/15/81, NYT)

(2) In recent years, some influential folks have carried the doctrine of mutual assured destruction to truly MAD proportions (7/17/85, LAT)

(3) President Bush is quietly redeeming nuclear weapons from the purgatory to which they were assigned by Jimmy Carter and Ronald Reagan. The mutually assured destruction doctrine, stigmatized as evil and unworkable by Reagan, is being rehabilitated by Bush as essential to world peace (6/27/89, WP)

Mutual assured destruction clearly denoted emotions based in the embodied experience of the receiver and on primary metaphors such as the 'building' or the 'house' that contribute to schematizing the entire process of the atomic attack. At this level, reporters were playing with conceptual elements easily recognizable by text-receivers because they had been previously incorporated into the nuclear domain as an essential part of its definition. Once more, domains such as CONFLICT, WAR or DESTRUCTION create a network of meaning based on a pessimistic representation of the event. Within that contextual frame, the idea of NUCLEAR RELATIONSHIP IS ATOMIC HOLOCAUST, as it happened in previous occasions, fit perfectly:

(1) The fear of nuclear holocaust seemed to fade, but the specter now is re-emerging (3/15/81, NYT)

(2) Rostow and other members of the Administration responsible for arms control reject the View of their predecessors-Which was the basis of detente-that nuclear war can only produce a holocaust that both superpowers have a stake in avoiding (9/28/81, LAT)

(3) Reagan calling on Americans to help him in "preventing a holocaust", warned Thursday that his arms-control efforts could be severely undercut by the dangerous concept of a nuclear freeze (4/1/83, CT)

(4) Understanding Potential Holocaust Of "Nuclear Winter" (5/20/84, NYT)

In this particular case, writers were working with the shared knowledge of previous stages and using preceding representation of the atomic fear to evoke a sense of despair. The fact that those emotions were absolutely identifiable for anyone familiar with past atomic conflicts shows how powerful nuclear discourse had worked to establish a powerful ideological perspective regarding the nuclear domain. Despite the fact that ATOMIC HOLOCAUST is a metaphor that belongs to the atomic category and cannot be interpreted outside it (and given that most Americans reading the papers in the 1980s had a certain degree of knowledge regarding nuclear issues of the past), it constitutes a powerful image that triggers very specific emotional cues. This is a case of meta-representation in which the domain employed belongs exclusively to the domain in which it is applied. ATOMIC HOLOCAUST is a metaphor that pertains to the atomic category and that does not have a meaning outside it; it emerged during the 1950s and was now used to re-activate previous frames that implied a cogent set of beliefs regarding the interpretation of the nuclear threat. The fabric of the new atomic definition was being woven with different elements related to a catastrophic vision of anguish and death. Even more drastically, nuclear war was interpreted as a form of suicide following a very elaborate blend in which THE US-RUSSIAN RELATIONSHIP IS SUICIDE:

(1) It would be an elaborate way of committing suicide (12/9/83, LAT)

(2) They also agreed that the new evidence made it clear a nuclear attack would be suicide for the nation that launched it, even if there is no retaliatory strike (12/3/83, NYT)

(3) Sagan said the doomsday scenario would occur even if only one nation launched a "first strike" and the target nation did not fire back. It would be an elaborate way of committing suicide, he said. (12/18/83, LAT)

(4) The goal is deterrence, but if deterrence failed it would leave our President only two choices: surrender or national suicide (7/17/85,LAT)

The interpretation of nuclear war as suicide demands the active participation of America in the war, for that reason, the deathly consequences of the atomic war are interpreted as 'self-murder.' This suicide is the consequence of accepting the idea of Mutual Assured Destruction and rejecting that of Strategic Defense Initiative. The preponderant belief during these years was that MAD was the wrong strategy, because, 'a full-scale thermonuclear war would so devastate the environment that some scientists believe human life, as well as that of most land vertebrates, might become unsustainable' (Franklin, 1988: 167). The metaphors behind this complex set of images are AMERICA IS A HUMAN BEING and MUTUAL ASSURED DESTRUCTION IS DEATH, as America voluntarily applies MAD policy—as was the case prior to Reagan's SDI—then AMERICA USING MAD IS COMMITTING SUICIDE.

The way towards acceptance of the new defense measures is paved with a strategic discourse founded on cues of anxiety and defenseless. Yet there was also another new way of generating atomic anxiety that goes deep into a new and scary phenomenon that was known as Nuclear Winter.

Nuclear Winter is Coming

The alarmist tone of war and destruction proved insufficient to create an atmosphere of unprecedented threat. Nuclear Winter was indeed a terrifying prospect for humanity. As Franklin (1988: 168) describes it, 'a full-scale thermonuclear war, with cities, forests, and grasslands burning out of control, pumping such dense clouds of smoke and debris into the upper atmosphere that most terrestrial life is extinguished in a nuclear winter'. Indeed, the idea of a post-holocaust "Nuclear Winter" was new within the scenario of nuclear annihilation (Boyer, 1989: 364). A totally revolutionary term incorporated within the atomic category, it constituted the ultimate, catastrophic result of nuclear war. Here some of numerous headlines for articles dealing with nuclear winter:

(1) Understanding Potential Holocaust Of "Nuclear Winter" (12/3/83, NYT)

(2) Scientists See Man's Doom in Nuclear Winter (12/18/83, LAT)

(3) Nuclear winter: Climatic trauma after a war could destroy Earth (1/22/84, CT)

(4) Nuclear Winter: Atom War--And Then It Gets Worse (1/22/84, CT)

Nuclear winter could be a newly coined term, but it pertained to the exact same frame as many of the old images related to the side effects of the atomic bombs. Eliciting ideas of extinction, contamination, darkness, and doom journalists were returning to the decades when the evil enemy was *Strontium-90*.

As a matter of fact, in order to understand the conceptual context for that *Nuclear Winter*, the receiver had to be familiar with nuclear affairs, and more specifically with the definition of radiation established during the 1950s. Nuclear winter is a growing part of that primitive vision of radiation as a contaminating agent, a metonymic extension now

blended into a new set of intertwined meaning. This rather complex element grounded its organization upon conceptual metaphors pertaining to the domain of WEATHER.

In a symbolic guise, the meaning of winter relates to cold, distress, and darkness. What is more, as Lakoff and Johnson (1989: 18) observe, as part of the metaphor A LIFETIME IS A YEAR, winter has to be interpreted as death and termination. Interestingly, in this context of vulnerability and necessity for action, the threat of a nuclear attack leveled the use of atomic bombs with the effect of a seasonal winter. Hence the newly coined term NUCLEAR WINTER in which there is a transposition of images emerging together in a combination of elements from the domain of weather and elements from the domain of the nuclear—mostly from the frame of attack. This is, however, the basic level of conceptualization. The whole sub-frame became much more elaborate, presenting *Nuclear Winter* as an external factor that might alter world climate:

(1) From their calculations, it now appears that the early '60s was the point at which the combined nuclear weapon stockpiled of the United States and Russia became large enough potentially to trigger a cataclysmic climatic disaster of global proportions (1/22/84, CT)

(2) Full-scale nuclear war probably would cause such a severe and sudden climatic change that it could destroy agriculture (9/13/85, WP)

(3) A nuclear war would drastically alter the climate, turning the Earth dark and cold for about a year (9/13/85, WP)

(4) We find that a global nuclear war could have a major impact on climate manifested by significant surface darkening over many weeks, subfreezing land temperatures persisting for up to several months, large perturbations in global circulation patterns, and dramatic changes in local weather and precipitation rates-a harsh 'nuclear winter' in any season (9/3/86, LAT)

This conception of climate change was absolute novel in the 1980s. A new vision of catastrophic magnitude was shown to the public. The idea of change, as such, was an inexhaustible source of uncertainty for text receivers that did not quite grasp the consequences of a *nuclear winter*. Besides, the uncanny element that came along with the radical impression of transformation provided powerful images that perfectly blended

with the sense of apocalyptic weather-change. Newsmakers appeared to return to the images of the supernatural employed during the first years of the Atomic Age, but this time with a dramatic twitch that fostered the negativity and the lack of hope. Conceptually, the idea of climate change represents a rather complex blend of different domains that come together to represent an apocalyptic grand finale for the Atomic Age. To begin with, the morality schema is implicit in the representation of nuclear winter. Deepening its roots into the concept of contamination, morality enters the realm not of seasonal but of metaphorical winter. The conceptualization of pollution as an essential part of atomic bombs began in the mid-1950s when nuclear testing was without control. At that point, pollution represented a stain on American 'purity'. In this new context that interpretation is extended and NUCLEAR WINTER IS CONTAMINATION. There is a clear cause-effect relation palpable in the way newsmakers described the effects of nuclear winter. Similarly to the definition of radiation as noxious contaminant agent, the noun dust reappeared in the atomic paradigm with the same purposes as before, a penetrating agent that violates American space:

(1) Most of the Northern Hemisphere would be left groping and choking in total darkness for days or week on end under an initially heavy cloud of dust and noxious smoke caused by the bomb blasts (12/9/83, LAT)

(2) The smoke and dust would shut out all but a tiny fraction of sunlight for weeks or months, causing a sharp temperature drop and changing the world's climate in possibly deadly ways. The extinction of man could not be ruled out (1/22/84, CT)

(3) A global "toxic smog" would spread radioactive dust around the world ultimately in both hemispheres (5/20/84, LAT)

(4) The period of darkness and freezing that many atmospheric scientists say could result form a globe-girdling pall of smoke and dust produced by a major nuclear war (9/13/85, WP)

In this new setting, atmospheric contamination was more drastically portrayed by means of a detailed representation of the consequences of nuclear explosions. Dust that

previously had been a main element to describe the dangers of radiation is now implemented with the idea of suffocating atmosphere. This effect was achieved by the abundance of terminology related to fires and burning, such as smoke or smog:

(1) A couple of hundred million tons of smoke into the air would decrease surface temperatures to well below freezing (1/22/84, CT)

(2) Such mass fires might be expected to generate smoke in amounts comparable to the amounts generated in some major nuclear exchanges scenarios the article in the current issue of Physics and Society, a publication of the American Physics Society, warned (1/12/86, LAT)

(3) A global "toxic smog" would spread radioactive dust around the world ultimately in both hemispheres (5/20/84, LAT)

(4) The period of darkness and freezing that many atmospheric scientists say could result form a globe-girdling pall of smoke and dust produced by a major nuclear war (9/13/85, WP)

The association of fire with death embeds in this apocalyptic interpretation of a nuclear disaster. The fatalistic images of a nuclear disaster, indeed, continued in an escalation of the dramatic tone. As a cornerstone in the imaginary of the atomic universe, the sun has always been a powerful source of symbolic meaning. In former periods, metaphors based on the sun were utilized to describe the magnanimity of the first American atomic bomb. In this new stage, the sun metaphor evolves into one of the most drastic and powerful images defining atomic energy. With the massive explosion of atomic bombs, the entire planet will be covered with a layer of soot thick enough to block the suns rays. This apocalyptic vision can be interpreted as the antithesis of the original definition of atomic energy as a *super-sun*. In the new scenario of a nuclear winter the sun would be overshadowed by atomic dust, and verbs that related to obstruction and blockage depicted nuclear winter in a rather alarmist tone:

(1) The deadly sun-blocking smoke cloud would drift over the Equator, wiping out the cold-sensitive plants (1/22/84, CT)

(2) A two-year study conducted by more than 100 biologists, physicists and atmospheric scientists found that the explosion of 5,000 megatons, less than one half the world's nuclear arsenal, would blanket much of the earth with a thick cloud of soot and smoke that would obscure the sun for months, thereby creating a "nuclear winter" of subzero temperatures even in the summer (5/20/84, NYT)

(3) The Federal Government has embarked on a broad program to assess the theory that fires set by even a limited exchange of nuclear weapons would blot out so much sunlight with smoke and soot that life on earth would be all but extinguished (8/5/84, NYT)

(4) The smoke and dust would shut out all but a tiny fraction of sunlight for weeks or months, causing a sharp temperature, drop and changing the world's climate in possibly deadly ways. The extinction of man could not be ruled out (7/17/85, WP)

Following the logic of the association of life with light, the process of pollution could be interpreted as the end of life because of the lack of sun. The fact that pollution could not only occlude the sun—but could also change the climate—appeared to be more supernatural and uncanny than any of the previous images related to atomic fears. The idea of light and darkness extended to reproduce a negative aspect associated with the Soviet Union and the terrible byproduct of its atomic operations. In fact, in association with a framing based on the myth of the space, 'America symbolized as a positive entity was a demonization of the Soviet Union. As predicted by this metaphor frame, the former Soviet Union is represented through metaphors of darkness' (Chateris-Black, 2011: 160).

Nuclear Winter is defined as a disaster that could only be compared to a biblical apocalypse, in which the consequences of climate change are death and extinction. The post-holocaust new image brought out ancient threats of mystical magnitude. The idea of extinction can be only compared to the might of cosmic events, such as meteorites, or God-like punishment of biblical dimensions:

(1) A group of Soviet and American scientists agreed today a large scale nuclear exchange could mean the extinction of the human race (12/3/83, NYT)

(2) The upshot they argued, would be the extinction of a significant proportion of the earth's animals and plants, including possibly the human race (8/5/84, NYT)

(3) When the clouds lifted whatever life remained would be at the our own extinction but also of the extinction of the human race (5/20/84, NYT)

(4) The smoke and dust would shut out all but a tiny fraction of sunlight for weeks or months, causing a sharp temperature drop and changing the world's climate in possibly deadly ways. The extinction of man could not be ruled out (7/17/85, LAT)

In this context, Mutual Assured Destruction was used as a synonym of 'defense' and safety. But in light of these conceptual representations, the reasons for such a disaster are found in the massive use of atomic weapons. In a way, the conceptualization can be re-interpreted as THE USE OF ATOMIC BOMBS TO RETALIATE (MAD) IS EXTINCTION. Due to the terrible images of darkness and death associated with the use of missiles to combat the enemy, deterrence, the keystone of military strategy for decades, began to be questioned. Nuclear affairs were no longer about winning a race or maintaining nuclear supremacy and pride. With the threat of a nuclear holocaust, the entire survival of the human race what was at risk. The only chance to survive and avoid nuclear winter was the instatement of a new plan of defense based on conceptual models of shield and defend rather than attack and fight.

5.2.2. Metaphors of Defense: Attack, Defense and Star Wars

As we have seen, by 1983 the credibility and sustainability of the idea of deterrence had greatly diminished due among other things to fears of a nuclear winter. Neither proliferation nor the total abandonment of the nuclear program (or nuclear freeze) seemed viable. Indeed, Reagan was not particularly in favor of a nuclear freeze, since previous attempts had failed. Linenthal (1989: 115) explains what happened: 'as détente and arms control, the pillars of superpower stability, crumbled, feelings of vulnerability increased and visions of radical change became attractive'.

Certainly, the solution ideated by President Reagan was a sophisticated one: America would create a shield to protect the country from any possible atomic attack. Strategic Defense Initiative thus became the paragon of modern technology.[5] The whole frame of the house is reinserted here to present a new model of conceptualization that had never before been used: the atomic shield. Interestingly, a shield is an indisputable part of a frame of war. In fact, as Trim (2011: 150) observes, 'in past battles, the shield was essential in hand-to-hand combat. It is this human artifact that has led to a general conceptual idea of a shield as a form of protection'. Nonetheless, a shield represented a

[5] This is SDI logo:

http://en.wikipedia.org/wiki/File:Sdilogo.svg (Last time accessed 7/2/2014)

literal protection that could maintain Russian missiles at bay and shelter American people. In fact, with a conceptual model in which Russia is portrayed as an unstoppable force, different implications are bound to emerge. With Russia as an unstoppable force, the emergent interpretation of the contextual model not only implies military endurance to halt the Russian threat, but also a model of containment and protection that is portrayed by means of the idea of the 'space shield' (Chilton, 1996: 196). The following figure shows the distribution of schemata employed to portray this new phase:

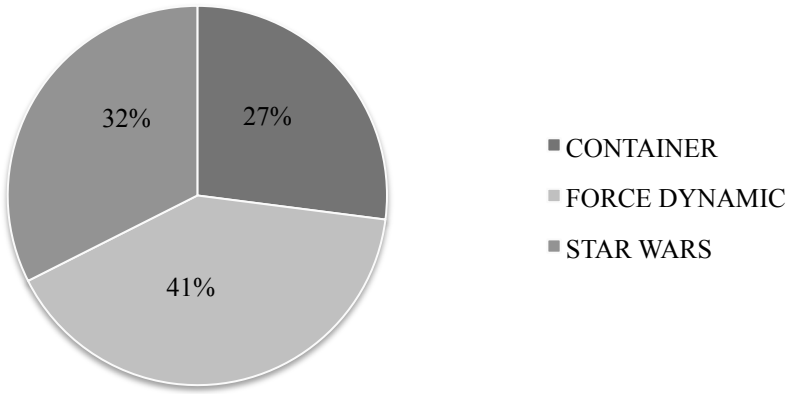


Figure 5.3. Conceptual structure for 'defense/offense'

Defense policy during these years hovered between deterrence, mostly represented by MAD (Mutual Assured Destruction) and Reagan's SDI (Strategic Defense Initiative), which was based on a more defensive position of shelter and shield.[6] Media discourse, which moved much in response to political pressures, captures these

[6] Chevalier and Gheerbrant (1996: 874) define shield as follows:

> Although it might sometimes be death-dealing, the shield is the symbol of passive, defensive and protective weapon. To the strength given by the leather or metal of which it is made, the shield magically adds the strength of whatever is depicted upon it. In many cases the shield is, in fact, a representation of the universe, as if the warrior carrying it confronted his opponent with the cosmos and as if the blows which the latter struck went far beyond his opponent and sank into the reality depicted.

contradictions. Deterrence is more marginal, but still represented as an alternative with which to address the threat of a Russian attack. Data show that its use as a discursive strategy is more prominent at the beginning and at the end of this period:

(1) How Much Terror for Deterrence? (7/28/80, NYT)

(2) Deterrence remains, as it has been historically, our fundamental strategy object, Brown said, but deterrence must restrain a far wider range of threats than just massive attack (8/20/80, CT)

(3) Bush's new emphasis on the role of nuclear deterrence in keeping peace could bring him into conflict with committed supporter a of Reagan's Strategic Defense Initiative down the road (6/27/89, WP)

(4) To those who maintain that this policy should be changed to reflect thawing cold war tensions. Its adherents say deterrence has worked for the last four decades and ask wily it should be abandoned so quickly now (7/30/91, NYT)

Within that frame, there were formulas that had been previously associated with the model of deterrence, such as MORE IS POWER. We can once more perceive that an increase in the numbers of weapons was connected to an increase in power. On the one hand, this notion was emphasized in discourse that focused on numbers and the importance of development:

(1) (The US) increased the number of nuclear warheads more than tenfold (4/13/80, LAT)

(2) The speech tonight was aimed at defending his proposal to increase military spending by 10 percent in 1984 (1/3/84, CT)

(3) But, in fact, Mr. Reagan Is believed most likely to modify his treaty proposal by increasing both a proposed ceiling of 5,000 ICBM warheads and increasing or eliminating a proposed limit of 850 ICBM missiles (3/24/83, LAT)

(4) If Congress approves all of President Reagan's program to modernize nuclear striking forces, the result to modernize nuclear striking forces, the result will be a dramatic increase in the size and especially the power of the nation's nuclear (5/23/83, NYT)

On the other, there was an emphasis on the modernization of weapons technology as it expanded into the frontier of outer space, following a complex network of blends

where DEFENSE IS MODERNIZATION—AWESOME ERA OF FANTASTIC MISSILES—and NEW IS POWER:

(1) Bowne expressed confidence that the United States can maintain what he called essential equivalence" with the Soviet Union and effectively deter Russian attack by modernizing its strategic force with the mobile MX missile, bombers armed with cruise missiles, and giant new Trident submarines with more potent and accurate weapons (8/20/80, NYT)

(2) Several hundred demonstrators gathered outside the hotel, some supporting a nuclear freeze and other endorsing Reagan's pursuit of high technology for a futuristic missile defense system (4/1/83, CT)

(3) Nuclear Weapons: Power Through Modernization (5/23/83, NYT)

(4) But at the same time, we are not going to allow ourselves to drift into inferiority. If we can't get reduction, we will have to continue the modernization of our defense forces (3/8/85, LAT)

By means of the use of the concept of modernization, journalists assumed that American military strategies were lagging behind and needed to be brought up to date. With this strategic move a conceptual shift occurred in the nuclear category that revisited force dynamic models of confrontation giving way to a rhetoric of security and defense. Despite a tradition of terror and retaliation, in this new context of absolute nuclear threat, the main trend was to return to a schema based on a less belligerent action.

SDI gave the impression of being the perfect solution. It could reset and renew the image of America as restored, invulnerable and with a powerful notion of transformation (Linenthal, 1989: 67). Besides, the mere fact of the use of the metaphor ‘shield’ was a formidable way of renewing American self-esteem. Franklin (1988: 202) observes:

> The fantasy of *security* is symbolized by the metaphor of the “shield”, with its evocation of isolationist yearnings for fortress America […] the fantasy of *power* is evoked by images of flashing laser or particle beams instantaneously leaping thousands of miles at their speeding targets and orbiting battle stations bristling with missile-killing “kinetic-energy” missiles.

To a certain extent, the new vision of SDI connects with a set of beliefs germane to the pioneering tradition in which Americans are portrayed as the conquerors of new

frontiers—in this case distant and fantastic ones (Linenthal, 1989: 45). Indeed the sobriquet 'Star Wars' appeals to another type of myth, that of a cosmic battle in the heavens, comparing Americans with mythical selves that will fight the enemy in the sky, as if they were the modern shamans of these technological times Weart (2012: 236). In news discourse, SDI was conceptualized as a mode of defense, an actual barrier that will contain Russian attack. The original model of containment, based on the conceptualization of Russia as a force, emerges in this new setting (Chilton, 1996):

(1) An effective defense against missiles launched by others (3/24/83, NYT)

(2) To embark on research on defensive missile systems represented no threat to the Russians (3/24/83, NYT)

(3) Several hundred demonstrators gathered outside the hotel, some supporting a nuclear freeze and other endorsing Reagan's pursuit of high technology for a futuristic missile defense system (4/1/83, CT)

(4) To develop a space-based defense against missiles as the magic formula to end the nuclear menace (1/3/84, CT)

At any rate, this powerful new vision had its roots in the categorization of the atomic weapons begun long before. Missiles, conceptualized in a very particular fashion from their origin, were now depicted with an emphasis on the infinite potential of technology. The cornerstone of the 'Star Wars' initiative was based on the condition of the weapons themselves placed into a universe of technological wonder and inexhaustible power. Indeed, as Smith (1989: 103) observes, 'the program is thought of as a "high-tech dream" and also, of course, as "warlike"'.

This conceptualization had been repeated in former periods and was now solidly established within the atomic category. The important transformations were not at the weaponry level, but at the level of military strategies and their locations. The CONTAINER

metaphor along with the notion of protection and defense implicit in a FORCE DYNAMIC schema in which the US is an agonist, was more than palpable in examples like these two:

(1) Reagan acknowledged that such a defensive umbrella lies far in future "It will take years, probably decades, of effort on many fronts," he said, "to give us the means for rendering these offensive nuclear weapons impotent and obsolete," (3/24/83, LAT)

(2) America's 1,000 highly accurate warheads could stay attack from any quarter and extend a nuclear umbrella to allies around the globe" (7/28/80, NYT)

While anecdotic within this corpus—only these two examples were collected, I wanted to include them because they are in the line of one of the most extensive metaphors for this period: the space shield. As mentioned before, the new idea of the atomic shield motivated a new way of looking at the entire atomic category. Underlying basic aspects such as the conceptualization of America as a living thing, the shield rested halfway between a mere protection (related to that former notion of 'shelter') and the much more active position of the warrior defending himself from the enemy. The shield, literally meaning 'in ancient and medieval warfare, and subsequently in that of pre-industrial peoples: an article of defensive armour carried in the hand or attached by a strap to the left arm of a soldier, as a protection from the weapons of the enemy', appeared to be the magic object of desire in these new days of technology and fantastic myth.[7] However, this shield was not a conventional defensive armor, as it was located in the outer space. By means of placing it into the cosmos the shield opens a new interpretation of atomic warfare:

[7] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/178068?rskey=6nOZiI&result=1&isAdvanced=false#eid (Last time accessed 7/2/2014)

(1) Wants to Develop Technological Shield in Space Against Warheads to Replace Nuclear Deterrence (3/24/83, LAT)

(2) Technological advances, like developing a space shield, offer us new options (10/20/85, NYT)
(3) President Reagan said today that the Administration viewed a United States space shield against nuclear weapons as moral obligation that would improve the prospects for an arms agreement with the Soviet Union (10/20/85, NYT)

(4) The proposed space shield (NYT, 3/5/85)

However, normally the idea of shield was highlighted and assumed within the entire new strategic model, rather than presented as a representative linguistic element. The metaphorical representation of SDI IS A SHIELD was implicit rather than explicit in newspaper language. The fact that this shield is located into the outer space and it is the result of futuristic technological advantages evolved into a categorization of SDI within the sci-fi domain.

Indeed, SDI was immediately labeled as "Star Wars" a metaphorical conceptualization that was contingent on American pop culture, and that cannot be properly decoded without knowledge of the cultural contextual meaning. Star Wars, originally a science fiction movie by George Lucas, opens a frame that moved throughout a fantastical context of outer space and the eternal fight between forces of good and evil. The fact that journalists decided to adopt that name is in itself an interesting phenomenon:

(1) A perilous step toward star wars (CT, 1/3/84)

(2) 'STAR WARS' DEFENSES (CT, 6/3/84)

(3) Allies fear 'Star Wars' race (CT, 2/10/85)

(4) The capitalism has made possible the dose of reality to see the science-fiction promise of star wars (3/5/85, NYT)

Inestimable is the number of examples using the label 'Star Wars', which became a ubiquitous cliché used by newspapers to talk about Reagan's SDI. By association with the movie, the frame 'science-fiction' became one of the available ways to interpret the new military strategy. By means of a very interesting metaphorical representation SDI IS STAR WARS (A SCIENCE FICTION MOVIE) the new strategy moves into a totally different and new landscape. President Reagan was actually the one that coined the term "evil empire" in a clear allusion to Star Wars' Galactic Empire—which is a totalitarian dictatorship.[8] Soon newsmakers adopted the label "evil empire" as a part of the definition of Star Wars policy:

(1) Reagan had a goal of reaching agreement with the Soviets and he played hardball to reach this goal, both with the defense budget and the "evil empire" speech and the like (4/1/83, NYT)

(2) This view was reflected in a Jan. 16, 1984, internationally televised speech that advocates of improved U.S.-Soviet relations view as the turning point away from the "evil empire" approach. (5/29/88, CT)

(3) Reagan had a goal of reaching agreement with the Soviets and he played hardball to reach this goal, both with the defense budget and the "evil empire" speech and the like (5/29/88, CT)

Nonetheless, that interpretation would not have been effective were it not that elements of the movie were extracted and placed into a real scenario. With the use of some of the components of the science fiction category in the actual scenario of warfare, the metaphor transcends its fictional domain to become part of an authentic event. Science fiction can be defined as 'imaginative fiction based on postulated scientific discoveries or spectacular environmental changes, freq. set in the future or on other planets and involving space or time travel'.[9] Both salient elements on this definition are

[8] http://en.wikipedia.org/wiki/Galactic_Empire_(Star_Wars) (Last time accessed 7/2/2014)
[9] http://www.oed.com.ezp-prod1.hul.harvard.edu/view/Entry/172674?redirectedFrom=science-fiction#ei (Last time accessed 7/2/2014)

present in SDI. By the use of the label 'Star Wars', the location of the event is immediately moved into outer space. Indeed, as Chateris-Black (2011: 149) argues:

> Reagan had a fascination with space—not only because it symbolized a new 'frontier' for scientific and technological advance—but also because it became, as it did for many scriptwriters, an arena for the projection of his greatest hopes and worst fears […] 'space' was the next 'frontier' and seemed to provide an arena for scientific and technological innovation that would impact on the practical aim of economic growth.

Actually, the incredibly fantastic weaponry involved in *Star Wars* occupies a relevant place in news discourse of this time. This barely comprehensible new terminology enhanced *innovative scientific discoveries* with myriads of fantastic terminology now available to the real subcategory of a space war. Yet newspapers went a step further, recounting fantastic tales of laser weapons. For those familiar with the movie that lent the name to Reagan's SDI, laser was an essential weapon in outer space—the Jedi lightsaber being the most salient element.[10] Including this element was indeed one of the most powerful strategies that ideological discourse could imagine. The idea of the laser exploits all the possible fantastic connotations inherent in the most whimsical science fiction:

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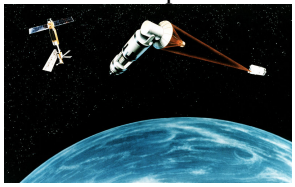
[10] The actual representation of SDI is rather similar to the imagery of Lucas' Star Wars:



Space Laser Satellite Defense System Concept. US. Air Force, 1984.

(1) A secret government plan has developed a Star Wars mirror for the air force that can beam high-energy lasers into the sky and zap enemies targets almost instantaneously, officials disclosed Wednesday (2/15/84, CT)

(2) President Reagan, however, has been pushing to accelerate the Pentagon's so-called "Star Wars" program, which includes laser and particle beams (2/15/84, CT)

(3) Exclaimer laser: destroy with ultraviolet beams emitted from chemical fuel ignited by huge amount of electricity (6/3/84, CT)

(4) Antisatellite weapons, electron-beam accelerators, and radar platforms (3/5/85, NYT)

All these examples are not metaphors by themselves, but by association with highly scientific frames, which actually become contextually located within the domain of fantasy and imaginative fiction. Even when they are supposedly real, they appear to belong to a new magic universe that created by American minds—once more, a positive type of awe infused this new version of the nuclear category. In fact, the interesting aspect of this conceptualization relies on the fact of having transformed a quite pacific image of shield into a fantastic war. What is more, conceptually, the type of frames employed to describe SDI are so ingrained in American culture, that it is barely impossible to interpret them without a deep knowledge of the context in which Star Wars emerged. Metaphorical entailments such as laser weapons are not necessarily equally interpreted by text-receivers that were not familiar with the domain of the Star Wars saga.

Similarly, the idea of boundaries and metaphorical frontiers was crucial to understanding the reaction of text-receivers towards this new type of nuclear policy. Certainly, the entire vision moves from the original idea of ‘pacific defense’, in which the space shield would just destroy hygienically the enemy’s missiles; into the category of a space war that deepened its roots in mystic images of cosmic fights and robotized mechanisms. Ironically, this schema led to a re-interpretation of the Strategic Defense Initiative as DESTRUCTIVE OFFENSE:

(1) The weapon has successfully killed flying target drones, officials said under a Freedom of Information Act request by the Knoxville News-Sentinel (2/15/84, CT)

(2) Since light travels at a speed of 186.000 miles per second, the lethal flux would arrive at the target almost instantaneously and there would be no requirement to lead the target except at very long ranges, one reported said (2/15/84, CT)

(3) Laser weapons being developed as a part of the SDI could more easily be used to incinerate enemies cities than to protect the United Estates against soviet missiles, according to an article in the current issue of a leading physics magazine and a separate study being circulated among government weapons scientists (1/12/86, LAT)

(4) A secret government plan has developed a Star Wars mirror for the air force that can beam high-energy lasers into the sky and zap enemies targets almost instantaneously, officials disclosed Wednesday (2/15/84, CT)

This representation, rather than creating a pessimistic image of terrible warfare, projects a sense of hope that contrasts with the vulnerability that originated this move, back in the early 1980s. SDI, even when it existed just for a very short span of time, brought confidence and returned hope, facilitating the step that would put an end to the Cold War and correspondingly, to the nuclear threat. Chateris-Black (2011:153) notes that 'for Reagan, space, and later the nuclear defense programme that became known as 'Star Wars', symbolized a romantic aspiration towards a peaceful world based on science and technology'.

5.2.3. Journey Metaphors and the End of the Cold War

However great the space shield might seem, it was a formula that was doomed to fail for a variety of reasons. Planned as an innovative way to defend America from a hostile attack, it was more a theoretical strategy than a truly viable system (Gaddis, 2005). On top of that, even if possible and made operational, the astronomical amount of money necessary made the whole project unrealizable. By the mid-1980s the idea of SDI began to fade away, and by the end of the decade, voices returned to the MAD scenario. This was especially the case when a new president, George Bush, was elected. The Strategic Defense Initiative was abandoned, and for a brief period, discourse returned to deterrence strategies. This resurgence of the old technique would be episodic and insubstantial, given that the end of the Cold War was already on the horizon. Finally, the peregrination of the atomic pilgrims was coming to term. During the last part of this period a new approach to nuclear discourse reestablished a schema based on the JOURNEY metaphor, previously used to represent agreement and cordiality in the US-Russia relationship. The data analyzed within this period show that there is a move from conflict to agreement represented by a new type of language based on the confluence of the two superpowers onto a common path towards peace. These are the major conceptual schemata employed to represent the end of the Cold War:

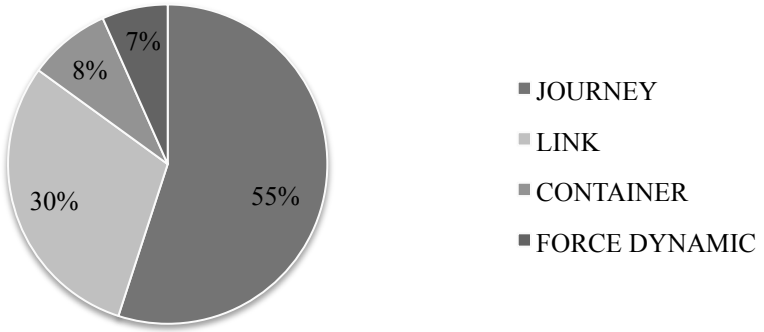


Figure 5.4. Conceptual schemata for 'the end of Cold War'

As on former occasions, the representation of THE ATOMIC JOURNEY was essential to the conceptualization of the new discursive mood. Related to the conceptual metaphor ACTION IS MOVEMENT and POLITICAL NEGOTIATIONS ARE MOVEMENT ALONG A PATH, this schema reemerged to quell the dramatic image of an all-out war and the tensions of former periods. In this new stage, a profusion of examples indicated a conceptualization based on the confluence of the US and Russia onto a shared road of accordance and cordiality. Thus, the most common metaphorical structure would be based on metaphors of movement:

(1) But a shortcut is necessary to avert the same old fateful track that has brought us where we are today, Kennan added (5/20/81, WP)

(2) The United States and the Soviet Union are now on the threshold of a decision that could make nuclear war seriously thinkable (3/4/84, NYT)

(3) They do have an obligation to chart a responsible course of their own that sacrifices propaganda to the opportunity for a genuine reduction in the nuclear threat (WP, 9/26/85)

(4) U.S.-Soviet relations view as the turning point away from the "evil empire" approach (WP, 5/29/88)

Certainly, even when he entirely supported SDI, Reagan himself had started a new approach toward nuclear affairs based on the chances of agreements and total nuclear freeze. In 1985, the two superpowers started a round of talks to find possible solutions to the nuclear race and its consequences. The time had come for a change, represented by newspapers in a graphic and concise manner. The conversion of path and the common goal reverted to the formula US-RUSSIAN RELATION IS MOVEMENT IN THE SAME DIRECTION:

(1) We are ready to agree to a number of compromises. And if the United States government will go along in the same direction, then a solution based on a compromise could be reached and the people would breathe more easily (LAT, 3/8/85)

(2) Time to bridge the wide gap between the two sides (WP, 7/6/90)

(3) See if there are places where compromise can be arrived at in a more orderly manner and in a faster manner (LAT, 11/23/85)

(4) While liberating the world from fear, we are making steps toward a new world (WP, 6/2/90)

The adjustment and evolution of nuclear affairs were presented by means of journey metaphors related to a new path towards agreement, NUCLEAR TALKS ARE ENTITIES MOVING INTO A NEW POSTION. This formulation was the basis of nuclear discourse in the former period (1962-1979) and now in 1985, after the erosion of belligerent strategies that had caused general uneasiness and fears, the JOURNEY schema reappeared with a renewed strength and determination to be the definitive move in the story of nuclear affairs toward termination.

Once more, the journey metaphor emerged to clarify the complicated universe of atomic discourse and to simplify the manners in which laypeople would interpret the end of a long antagonizing period. There was a relatively short stage of adjustment in which some voices would continue talking about races, deterrence and star wars, but gradually

the core of the main articles comes to focus on nuclear talks and possible agreements that the US and Russia could potentially reach to put an end to the Cold War. This idea of agreement was represented, on occasion, as a move that implied change in each bloc's perspective and position, propitiating a conceptualization in terms of movement toward shared goals:

(1) The world has changed at a fantastic pace with each day writing a fresh page of history before yesterday's ink has even dried. And most recently. We've seen the peoples of the Soviet Union turn to democracy and freedom, and discard a system of government based on oppression and fear (9/28/91, NYT)

(2) Reagan is riding the crest of an immense change in U.S.-Soviet relations that largely reflects Significant differences between Gorbachev and his predecessors (5/29/88, WP)

(3) The recent spat between Washington and Bonn over short-range nuclear missiles stationed in West Germany was only the most visible sign that rapid political changes occurring in Europe will have an impact on all levels of nuclear strategy (6/27/89, WP)

(4) But the rapidly changing political equation in Europe has already pushed the alliance toward changes that were not foreseen a year ago (NYT, 7/3/90)

These examples imply a perspective based on a conceptualization such as US-RUSSIAN RELATION IS A CHANGE that had to be interpreted as physical displacement, or movement from one place into another, that is, an interpretation at the most explicit level of physicality. This adjustment entails Russia's return from the *dark side* of immorality and depraved attitude to a renewed path of purity, alliance, and political agreement.

Correspondingly, the concept of agreement is paralleled with a metaphorical move toward a common goal, which is the destination. The metaphorical force dynamic schema where Russia is an agonist and the US a container of its force gives way to a new model rather similar to that used in the former period (1963-1979):

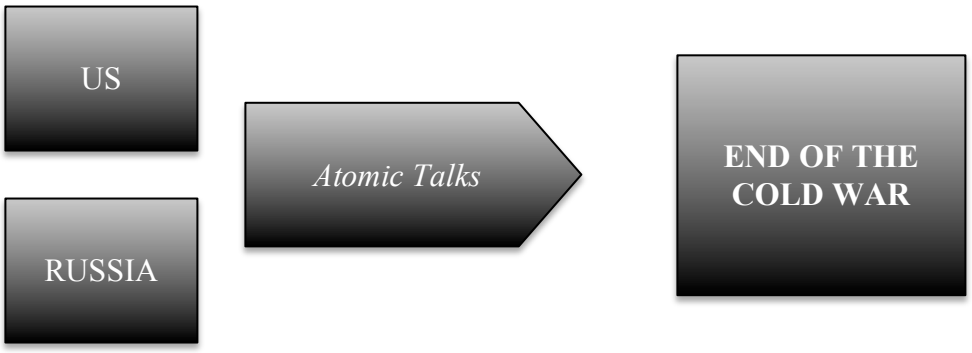


Figure 5.5. Dynamic representation of the two entities moving in the same direction

The conceptual frame AGREEMENT IS REACHING A COMMON GOAL engendered an atmosphere of cordiality that dismissed the latent fears and insecurities propitiated by the discourse of terror employed in the early stage of this period. Likewise, it displays the notion of common path and union that brought the two superpowers into a closer relationship:

(1) The combined strength of U.S. and Soviet forces in central Europe under a pending agreement (7/6/89, WP)

(2) The completion of the START declaration and signing of the trade and grain agreements cleared away nearly all of the pressing business (6/2/90, WP)

(3) Bush and Gorbachev sealed the agreement in a private meeting, ending a nine-year negotiation aimed at trimming by one-third the continent-spanning nuclear weapons each country has targeted at the other (7/18/91, WP)

(4) The arms agreement marks another milestone in the shifting direction of U.S.-Soviet relations in the aftermath of the Cold War (7/18/91, WP)

Following the structure of the SOURCE-PATH-SCHEMA, where the source is POLITICS IS CONFLICT, and PATH is based on the series of talks and agreements, the goal—as it was during the 1970s—is to stop any type of motion at a figurative level. In fact, the ultimate goal of the talks is reduction and control, or what on a metaphorical level can be interpreted as the obstruction of the atomic path. Examples in this category are varied and formulated following the principles of an image-schema of motion.

A good example is the use of the term 'reduction' to discuss the nuclear arsenals of the two superpowers. Reduction, as presented in the examples, is derived from what would be the opposite of MORE IS BETTER; on the threshold of a new era of armament, the conceptualization of atomic weapons seems to have been inverted into LESS IS BETTER:

(1) In Geneva our goals are to achieve reduction and eventual total elimination of (nuclear) arms (3/8/85, LAT)

(2) The hope that a new era in arms control will begin with the signing of the Strategic Arms Reduction Treaty at the Moscow summit this week may be misguided, officials and arms control experts acknowledged (7/30/91, NYT)

(3) To "stop in midstream," Reagan said, would "mortgage our ability to deter war and achieve genuine arms reductions, and we will send a signal of decline, of lessened will, to friends and adversaries alike." (3/24/83, NYT)

(4) U.S., Soviets Reach Pact Reducing Nuclear Arms: STRATEGIC ARMS REDUCTION TREATY (7/18/91, WP)

Reduction in this context goes beyond the literal meaning, positing a new perspective where elimination is containment and dissolution. Looking back to the early years of this period, when the expansion of nuclear military power appeared to have inundated outer space, spreading the chances of a nuclear catastrophe, the symbolic halving of the nuclear arsenal allows receivers to understand that this *liquid substance that had spread to unforeseen limits* was now reduced and contained. Similarly, control means a cessation of movement in this context, which can be paradoxical if we assume that the whole meta-frame for this new model is based on the MOTION schema:

(1) During the first meeting between the two in 1985, Gorbachev insisted that before any U.S.-Soviet nuclear arms deal could be reached, the Reagan administration must curb its plans to build a space-based defensive shield against nuclear-tipped missiles (5/29/88, WP)

(2) The Nuclear Priority: To curb proliferation, ban testing (NYT, 1/7/91)

(3) There are two reasons why stopping all tests would be effective in curbing proliferation (NYT, 1/7/91)

(4) And we will intensify our effort to curb nuclear and missile proliferation (9/28/91, NYT)

In periods of tension and evident conflict the media promoted complex representations, a myriad of different domains put together to project a diversity of emotional cues. Similarly, in periods in which the discursive goal was to assuage political tensions between the US and Russia, simplified models were preferred. By the end of the Cold War, and even when it still occupied a prominent place within the atomic category, journalists' portrayal of the US-Russian atomic confrontation was almost entirely disappearing from the nuclear picture. In fact, the entire category began to lose its shape and specificity in this final stage. The end symbolized the collapse of Communism and also the end of the hectic *Atomic Age*, yet the voices that in former years had trumpeted the achievements of that same wonderful age were no longer there to claim a resounding victory. Rather, the coverage depicting the end of the Cold War was cautious yet straightforward:

(1) NOW, with the Warsaw Pact collapsing and Soviet forces withdrawing from Eastern Europe, there is no longer a need to think in terms of an early retaliatory use of nuclear weapons by NATO (NYT, 7/3/90)

(2) The era of Cold War confrontation has ended for NATO (WP, 7/6/90)

(3) The cold war, which fueled the demand for ever newer and better nuclear weapons, is over (NYT, 1/7/91)

(4) The presidents then met briefly with reporters. "We were told that all of the issues are solved". Gorbachev said, announcing the agreement. "We, with the president of the United States, have agreed to formalize everything in Geneva." Later, U.S. officials said this was a reference to drafting the actual treaty, not to any negotiations (7/18/91, WP)

For a category of remarkable complexity for many years, the Cold War ended in a very discreet manner. In fact, the entire universe of cosmic forces, man-made super suns, terrible enemies or holocaustic visions fell into oblivion in a sudden step, collapsing as an unsustainable building that could no longer be supported. It was as if factual modernization had wiped out any eerie dreams to give way to a more rational

interpretation of nuclear affairs. With the fall of Berlin wall, in 1989 a new era of transformation and peace abruptly opened up, leaving the atomic category in a limbo of obscurity and indifference marked by the new ideological orientation of the *burial* of the *Atomic Age*.

5.3. From Star Wars to the End of the Cold War

In 1980, after a period of *atomic sleep*, the category returns to the scheme of two blocs and the metaphorical representation POLITICS IS WAR. However, in this case, the model is not based on deterrence and ATTACK but on DEFENSE and SHIELD. This switch is based on the desire of President Ronald Reagan to put an end to the policy of MAD and embrace a more conservative attitude toward nuclear warfare. Once more, the old model of CONTAINMENT is employed to organize the category (Chilton, 1996). Nonetheless, in order to persuade public opinion of the viability of SDI, a powerful dissuasive vision of nuclear holocaust had to be established. Thus, during this period, dark images of annihilation were constantly associated with any nuclear event. The most striking and novel element added to the nuclear category was NUCLEAR WINTER, which occupied a central position within the conceptualization of nuclear affairs in the first half of this period.

Media discourse during this time was mostly based on referential and proximization strategies that aimed to engender a sense of vulnerability and despair that could only be combatted with SDI. These types of strategies aroused cognitive and emotive coertion, which caused a change in the perspective and opinions of Americans. These effects are palpable in the Polls; for example, in 1983 a survey asked about

'defense policies'. To the question '*Do you think Reagan administration's defense policies have brought the United States closer to war or closer to peace?'* A 47% of the population answered 'closer to war'. Nonetheless, when the same surveyed people were asked '*Do you favor or oppose a freeze on the production of nuclear weapons whether or not the Soviet Union agrees to do the same?'* A 68% of the population opposed, favoring the proliferation of new armaments. In the same survey, people were asked '*If we should happen to get into an all-out nuclear war, what do you think your own chances would be of living through it?'* A 69% of the people asked said poor chances (Gallup Polls, 1984: 265). This survey summarizes the panicked status of a population that had been bombarded with images of total destruction and despair. In fact, as Keltner et al (2006: 118) observe, 'certain emotions, such as fear, embarrassments, or guilt, help the individual to respond adaptively to threats in the social environment'. These emotions, however, can also be counterproductive and create a response of total repulsion and rejection. Vulnerability, freeze, or space defense were the hot topics of the first half of this decade during which the course of the entire atomic affair would change drastically. Regarding the idea of vulnerability and size: 'the relative size of ingroup and outgroup is one such variable. The greater the relative size of an out-group, the more vulnerable individuals are to an injurious inter-group encounter' (Schaller, Park & Faulkner, 2003:114). In fact, to a certain extent the concept of vulnerability was founded on the fact that Russia was now more powerful and could deliver an attack at any moment. The amount of weaponry, independently of who possessed it, contributed to the perceived magnification of the might and size of the rival. As Franklin (1988: 167-8) writes, by the 1980s the escalation of the nuclear weapons race had produced an enormous arsenal:

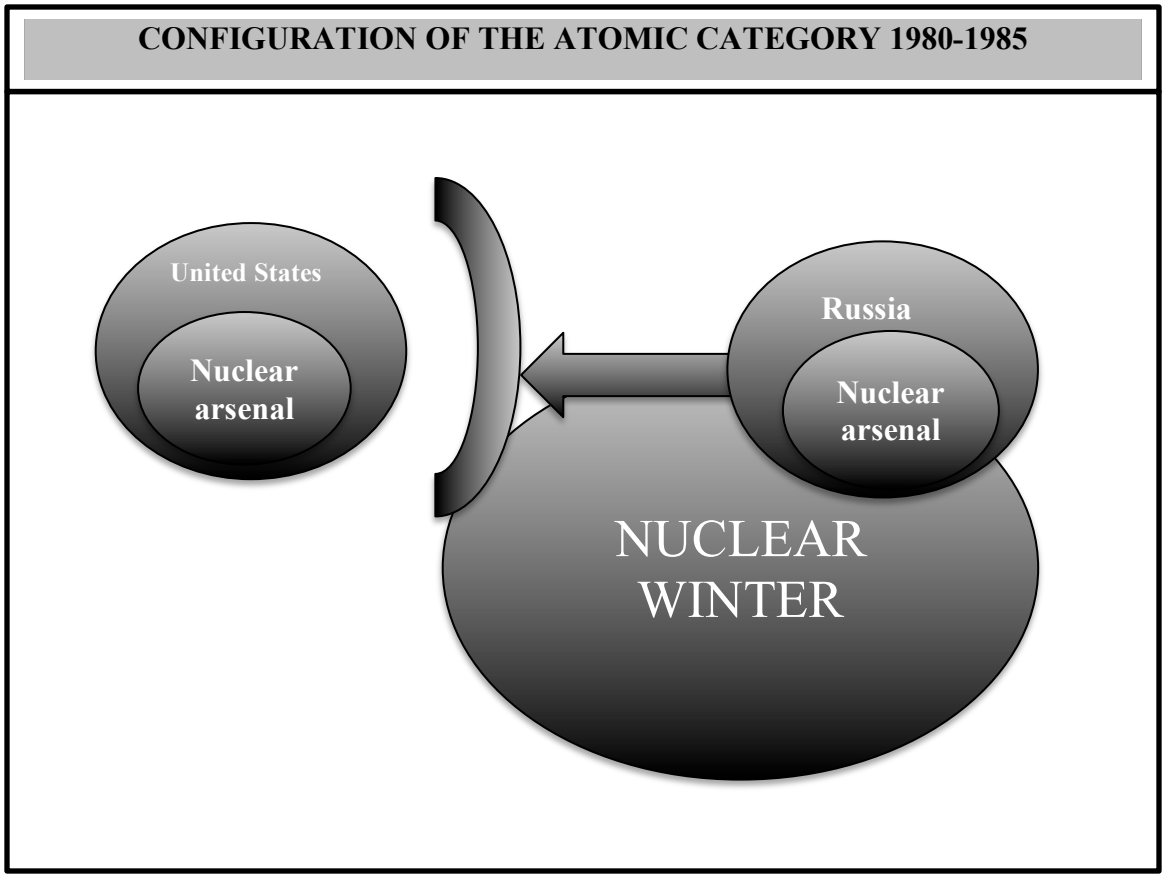
> Strategic missiles and tactic missiles; nuclear submarines that can launch their missiles while submerged; multiple independently targeted reentry vehicles (MIRVs) that enable a single missile to hit several widely separated targets with thermonuclear warheads-, maneuvering re-entry vehicles (MARVs) to assure the invulnerability of the warheads; neutron bombs to kill more people while destroying fewer structures; cruise missiles that can follow complex routes with automatic navigation systems allowing attack from unexpected directions; and "counterforce" missiles, such as Pershing II and MX (the "peacekeeper"), designed not for retaliatory deterrence but for first-strike capability against unlaunched missiles in hardened launch sites.

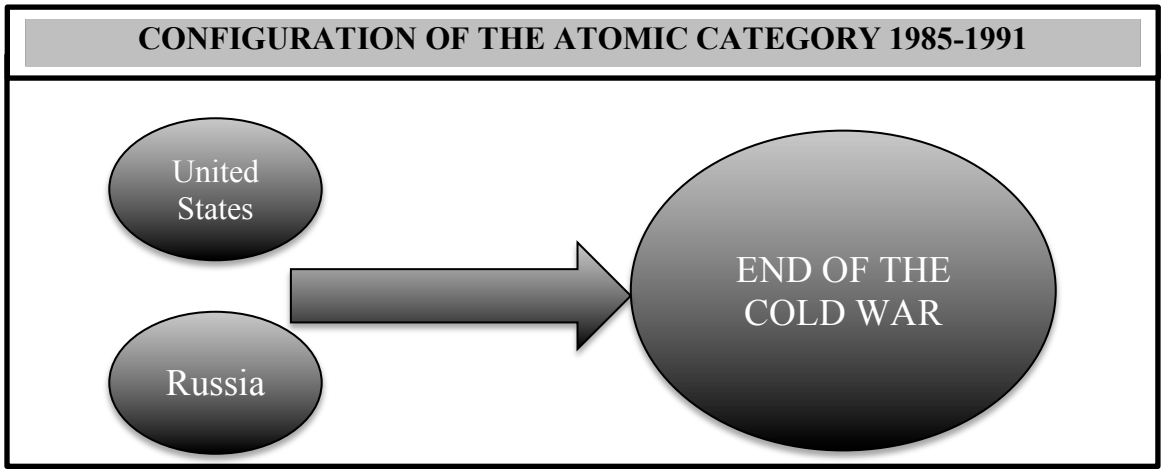
Media discourse made extensive reference to a nuclear arsenal replete with weapons with names based on topoi of danger. Such references left text-receivers with a dual feeling of security and vulnerability to attack (Hart, 2010). Text-receivers were afraid of the magnitude of the nuclear arsenal—whether Russian or American—and its potential to annihilate life on the planet. This fear provoked a reaction in public opinion, which appeared more open to putting an end to the nuclear escalation. On April 21, 1983, when asked about the 'nuclear arms freeze', 70% of the population seemed in favor of a nuclear freeze on testing (Gallup Polls, 1984: 72). In the same survey there was a question about nuclear strength. There, a total amount of 42% considered the Soviet Union more powerful than the US. These two surveys demonstrate how a discourse of fear, based on strategies that depict Russia as a terrible enemy and nuclear proliferation as a synonymous with death, strongly influences text-receivers and their conceptualization of nuclear events.

After 1983, the policy of containment was almost literal: the idea of a space shield that would protect Americans and destroy Russian missiles became embedded in the new model of DEFENSE. By 1985, almost 70% of the population had heard about the 'Star Wars' proposals', and of those, almost 50% believed the United States should move forward

with the program, which—they believed—would make world safer (Gallup Polls, 1986: 49-51). The powerful images of the war in the stars had momentarily mesmerized public opinion. Yet fears of war, the Russian threat, and the risks of the arms race continued to occupy the minds of Americans (Gallup Polls, 1986: 52). Thus in the minds of Americans, even the most fantastic device—a space shield—could not prevent war or nuclear disaster. The impact of this gloomy frame encapsulating the new nuclear era was high. For example, in 1986, 30% of the population believed that the most important problem facing the United States was war (Gallup Polls, 1987: 48).

In fact, by 1985 the model of CONFRONTATION was exhausted, and a new move—based on the structure SOURCE-PATH-GOAL—took place within the category. The source of this schema was MAD and the potentials of an atomic holocaust; the new path was the talks between Reagan and Gorbachev; and the goal was the end of the Cold War. Talks began and agreements were reached in record time: by the end of the decade the Cold War began to thaw. Media language, contributed enormously to the depiction of these scenarios, generating a mental model that is dual, as the following figure shows:





Text-receivers, as on former occasions throughout the Atomic Age, grounded their simulations of nuclear events on mental models like the ones above. These schemata

are based mostly on linguistic strategies deployed by media discourse with persuasive and manipulative purposes.

In terms of ideological models, something similar happened. From this discursive duality emerged two different ideological models: the first one is based on a discourse of conflict and generates a group schema based on an ideology of fear and hopelessness:

IDEOLOGICAL CATEGORY DESCRIBING 'THE ATOMIC AGE' 1980-1985	
MEMBERSHIP	We are Americans
TASK	We have to protect ourselves from Russia
GOAL	To defend from the enemy
NORMS & VALUES	We are protecting the world from evil
RESOURCES	We have SDI
POSITION	Defense, shield

Table 5.4.a. Ideological schema for atomic category 1980-1985

This position is abandoned when both Russian and US leaders decided to negotiate and set a new course in the nuclear agenda. At that moment, media adjusted its discourse to the new political path, promoting a visualization of the atomic affair in more simplistic and positive terms. Thus, by the end of this period the group schema had transformed into the following:

IDEOLOGICAL CATEGORY DESCRIBING 'THE ATOMIC AGE' 1980-1985	
MEMBERSHIP	We are Americans and Russians
TASK	We have to protect the world from nuclear threats
GOAL	To reach a common goal of peace
NORMS & VALUES	We agree to stop nuclear stockpiling and testing
RESOURCES	We have the will and the confidence
POSITION	End of the Cold War

Table 5.4.b. Ideological schema for atomic category 1985-1991

The fact that the Cold War, and consequently the Atomic Age, came to such a sudden resolution caused a rapid abandonment of nuclear discourse. The mental category that had been evolving since 1945 concluded abruptly. The fact that journalists so swiftly set aside nuclear discourse caused an ossification of the nuclear category. As shown in the previous section, elements such as nuclear winter, atomic holocaust, or fantastic missiles were not totally erased from the atomic lexicon. As in a fossilization process, public opinion maintained a nuclear schema that, though no longer applicable, remained in effect. As if frozen in time, waiting to be awoken, elements such as radioactive cloud, nuclear holocaust, and nuclear winter are still an essential part of the mental definition of nuclear energy. Even though the Cold War is no longer a front page issue, fictional worlds still make use of that fantastic imaginary to appeal to the unconscious vision of atomic affairs that the media once conceived. The impact of language in the way text-receivers interpreted the entire event was such that even posthumously, there abide, in the ways nuclear questions are understood, many traces of a rhetoric of terror and desolation.

6. CONCLUSIONS

The story of the Atomic Age is a nuclear tale based on a carefully crafted language that evoked fears and loves during more than forty years of Cold War. As Jacobs (2010: 3) observes:

> The Cold War was a period of history profoundly shaped by a physical object—the bomb—that very few had actually ever seen. What gave them nightmares of nuclear explosions, what compelled them to dig underground fallout shelters, and what led them to fund the nuclear arm race were stories about the bomb. These stories were told in articles by 'experts' who predicted that the advent of nuclear weapons would lead either to the end of the world or to a world of peace and plenty; in apocalyptic denunciations of the evil designs of the hated Soviet enemy by government and military officials; in science fiction tales of the last survivor of an imagined nuclear war; even in a cartoon tale of a turtle who taught children how to survive an atomic attack.

The present dissertation analyzes news articles in order to determine ways in which the type of discourse employed by the media shaped the mental model of nuclear matters. Likewise, this work examines text-receivers' reactions to particular mediatic depictions of nuclear questions, for the most important changes occasioned by the Atomic Age were psychological (Schwebel, 1990: 521). The primary goal of this work was thus to investigate the shaping of the American mental conception of the Atomic Age vis-a-vis media texts.

Based on the methodological parameters of Cognitive Linguistics and Critical Discourse Analysis (mostly following Van Dijk's approach), first I compiled a corpus of 250 news articles from five distinct periods of the Cold War, and then I applied a combined methodology to the analysis of texts. Given the size of the corpus (250 news articles per each period studied) it was necessary to narrow down considerably while simultaneously maintaining statistically significant quantitative data to allow for the drawing of valid conclusions. While metaphors were not the only strategic element

amenable to analysis, they proved salient enough to reach conclusions about the type of discourse employed by institutional voices to construct a nuclear ideology. In fact, the identification of different kinds of metaphors was far less important than the documentation of the various schematic mappings employed to produce a picture of nuclear events based upon ideological construction. Indeed, this work analyzed approximately 1250 conceptual metaphors that confirm the orientation of strategic discourse throughout the different periods of the Atomic Age.

Thus, by examining discourse at the linguistic level—the first step in the analytical process, this work inferred frames, schemata and contexts that together made up the strategic elements employed by journalists to model networks of interrelated ideologically-grounded meaning at the global level. By looking at the metaphorical language developed by newsmakers, this dissertation scrutinizes the actual ideological framework in which the new conceptual category for nuclear energy was supported. These conceptual representations, deduced from the type of conceptual metaphors used, provided an insight into the ideologically-framed meaning of nuclear matters that institutions were inciting.

In defining and shaping the nuclear category, reporters exploited different linguistic processes to create a complex network of interrelated metaphorical meaning, susceptible to change depending on the political and ideological orientation at the time. Text-receivers when attempting to interpret nuclear events were subjected to a type of process that had been ideologically constricted by means of the type of language employed to define nuclear affairs. The selection of metaphorical representations created a frame of shared knowledge that led to the establishment of a solid and irrefutable set of

truth criteria available for the group to interpret and understand atomic affairs. The different models associated to the definition of nuclear affairs were founded on strategic interests that engendered a kind of output that guided the sort of simulations that text-receivers would experience, locating nuclear meaning within the coordinates of an institutionalized perspective.

As the category grew in metaphorical intricacy, the gears powering the ideological perspective became more and more persuasive. With a powerful agenda in nuclear research, it is logic that the Government—and by extension the media—made use of strategic discourse to make text-receivers behave according to their interests. The magnitude, significance, and persuasive power of nuclear discourse facilitated the mental assimilation of nuclear ideology within a firm belief system that reflected the interests of powerful institutions and forces text-receivers to behave in a particular way regarding atomic affairs.

Data Distribution and the Periods of the Atomic Age

The study of atomic discourse from a diachronic perspective necessitated taking into account different political orientations that structured the whole atomic age into distinctive stages reflecting the variance of political tacit and its ideological orientation. Thus, the subdivision of atomic age included five well-differentiated stages in which the political attitude underwent some kind of transformation:

1. *'The Birth Of The Atomic Age: 1945-1949'*

2. '*Russia, The Conflict And The H-Bomb: 1949-1952'*

3. '*The Atomic Threat: 1953-1962'*

4. '*The Atomic Talks: 1963-1979'*

5. '*Back To The Nuclear Threat: 1980-1991'*

This work was structured upon the guidelines proposed by Van Dijk (1998), regarding the different types of discursive levels that one can find in texts. Thus, at a general global level three main topics were systematically found in each of the period: the atomic energy, the atomic journey, and the atomic conflict. However, depending on the ideological orientation of each stage, the frequency with which these topic were present in the corpus varied significantly, as the following chart displays:

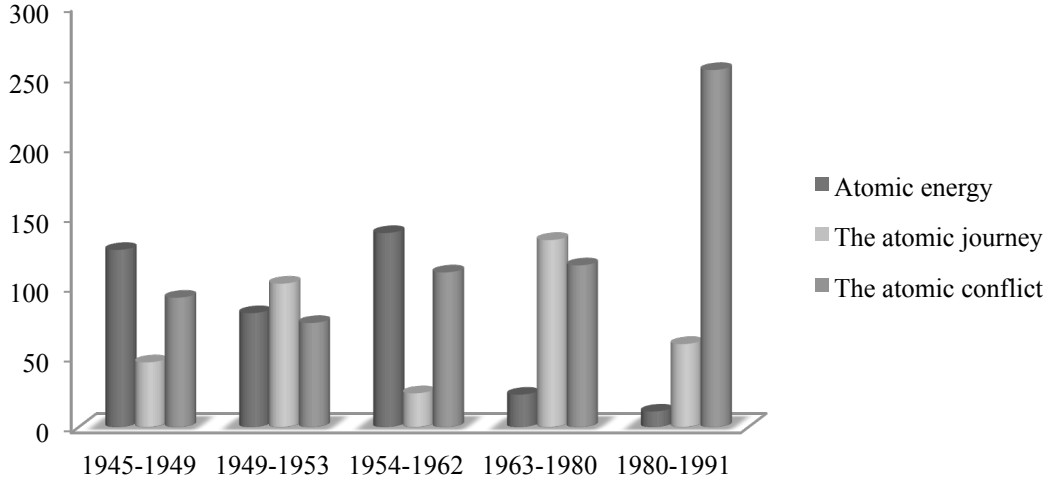


Figure 1. Distribution of the topic at the global level during the Atomic Age

As the graph indicates, while in the first three stages, the main theme was atomic energy, the focus progressively veered towards the actual atomic conflict. Similarly, depending on the ideological mood of each stage, the idea of atomic journey would be more or less emphasized to create a sense of direction and determination. The atomic conflict constituted the core of what is known as Cold War, and for that reason is pervasive throughout all the different stages.

While at the global level it is evident that the ideological pressure oriented topic organization; at the level of local meaning a similar phenomenon can be perceived in the type of linguistic strategies selected, which would facilitate an ideological conceptualization of the nuclear questions. Thus, in a first stage named *'The Birth Of The Atomic Age: 1945-1949'*, the media using a profuse language full of mythical images and powerful metaphors created a basic first approach to the definition of nuclearity. In this first stage metaphors demonstrated an inclination toward a positive representation of the bomb. In order to produce that optimistic image, the media attempted to generate acceptance and pride. To raise acceptance, naturalization of the Atomic bomb was the preferred strategy. Metaphors such as THE ATOMIC BOMB IS A COSMIC or THE ATOMIC BOMB IS A VULCANO were extensively employed to provide the '*gadget'* with natural features, a naturalization process that worked fairly well at the level of positive reception of the bomb. In addition, to produce a sense of rightness and pride, journalists accentuated the fact that the atomic bomb was an American product with metaphors in which it was related to human effort. Images such as ATOMIC SCIENTISTS ARE CREATORS OF LIFE implied the moral struggle of the US, along with a mythification of American scientists perceived as the new Prometheus stealing the sacred *atomic* fire from the hands of God.

Overall, the first image media portrayed of nuclear matters was grounded in a type of myth in which the Atomic Age was hyperbolically presented as a fantastic event. In fact, the bombing of Hiroshima and Nagasaki were considered as the inaugural measures of a new (glorious) age. Reporters represented that new age with metaphors in which a promising path was exclusively open for American scientists. During this period, discourse depicted a triumphant American and a virtuous, Godlike, Atomic Bomb. Text-receivers, exposed to a positive illustration of the new category, were prompted to embrace the new age in terms of an *American Golden Age*.

However, soon other competitors would begin to show interest for the new atomic *journey* that Americans had initiated with great fanfare. This caused a palpable uneasiness depicted by newsmakers as a profanation of the American temple that guards atomic secrets. Journalists employed a type of strategic discourse that, based on the container schema, enhanced the duality of in-group and out-group members, theirs boundaries and theirs spatial positions. In fact, by means of metaphors such as RUSSIA IS A THIEF a conception of external threat emerged powerfully during these days. A dual model with two participants was established. Thus, metaphorical force dynamic schemata were applied favoring a model of CONTAINMENT in which Russia was depicted as an agonist and the US as the container antagonist. By the end of the 1940s the interpretation of the Atomic Age began to shape the category of nuclear affairs in terms of a rivalry between binary opposed poles.

The second stage that I want to refer as '*Russia, The Conflict And The H-Bomb: 1949-1952'* brought about a whole mutation within the categorization and understanding of nuclear matters. At this point, journalists employed a type of conceptualization based

on a model of confrontation and competition. Newspapers employed metaphors of CONFLICT and force dynamic models representing two agonist blocs rivaling to gain control over atomic power. The idea of the atomic path as a road that both the US and Russia were exploring became frequently employed during this stage. In fact, while COMPETITION was the key element within the metaphorical configuration of the nuclear category; the notion of POLITIC IS CONFLICT turned out to be one of the most representative model for atomic affairs. In this context, Russia and the US are conceptually depicted as a in a PHYSICAL FIGHT. Metaphorical representations in which Russia was positioned as in attack portrayed and framed a new emotional status of vulnerability and helplessness. Journalists fortified the boundaries between in-group and out-group by means of referential cues that situated Russia as the enemy of the free people of the world. To counteract Russia's attitude, it was important to foster the internal motivation of the in-group. One important metaphorical inference during this stage was ACHIEVEMENT IS FREEDOM that ignited the motor of atomic research and activates a sense of morality and struggle principles by means of which America had to keep on carrying nuclear discoveries, in order to maintain its freedom. Thus, making progress and achievements reverted into a discourse of terror—*deterrence*, as the military response to the Russian's threat. Indeed, deterrence became the military and ideological strategy, deployed both in the military arena and the terrain of news articles. Deterrence, and retaliation—basically meaning reciprocal attack—implied a pattern in which both blocs were actively represented. In fact, there was a constant association of the metaphor ACTION IS MOTION with the recovery of confidence, supremacy, and ultimately Freedom.

Language was essential to create a proactive attitude in this conflictive context. Because, an active role was required in order to restore American supremacy, a race for thermonuclear power was inaugurated as both a dialectical and a physical confrontation over nuclear hegemony. For half of this period, the representation of thermonuclear bombs as something terrifying and overwhelming occupied the gross of the data analyzed, performing an evident dialectical dissuasion. Reporters of this time, in fact, named the H-bomb as *the super*, what reflected a conceptualization in which metaphors such as MORE IS UP and MORE IS POWER constituted an essential role in the correct interpretation of the H-bomb as an instrument to deter Russia from attack. Certainly, metaphorical representations of quantity proved fundamental to dissuade the enemy from attack.

Text-receivers during this period learnt to be afraid of the dangers atomic power in the hands of the enemy. While in the former stage any simulation of a nuclear event was grounded on positive scheme, during the period that goes from 1949 until 1952 simulations appeared to be tinted with the huge of a potential dark horizon. During this phase the audience became aware of the belligerent context in which atomic affairs took place, being able to perceive the borderlines between good and bad that had been carefully drafted by media discourse. The fact that there were two active blocs fighting for control activated, one more time and despise the magnificence of the H-bomb, emotional cues of vulnerability and uncertainty. Text-receivers highly exposed to emotive strategies based on fear and despair developed an acceptance of the policy of deterrence as the only possible way to contest Russia. Nuclear discourse located the US in a disadvantage position. This framing generated emotive effects in the audience that

were no longer proud of atomic power but afraid of the consequences of atomic power in the *hands* of the enemy.

In fact, that was just the beginning of a new order in the Atomic Age. Soon the mood darkened and the third stage that I labeled as '*The Atomic Threat: 1953-1962'* was inaugurated. During years, media discourse displayed gloomy and threatening images of thermonuclear bombs and atomic holocausts. For the first time, America was not depicted as in control and with total supremacy. Instead a two-bloc model structured the category. However, while originally these representations illustrated the two potencies in an active role of ATOMIC AFFAIRS ARE FIGHTS and ACTION IS MOTION FORWARD, eventually the functions of the participants shifted into a model of ATTACK AND DEFENSE. During this period, Russia underwent a process of *demonization* palpable in the type of language utilized to locate it within the coordinates of nuclear matters. In fact, the third phase in the history of the Atomic Age was the one that offered the larger amount of negative representations.

Russia was a threat because it was gaining atomic power and dangerously approaching the US. Indeed, during this stage, the polarization of the two blocs in terms of GOOD VS. EVIL was palpable in the metaphorical representation of the US and Russia. Whereas the US was pursuing 'Atoms for Peace', the *evil* Communist rival became the epitome of atomic disaster. To begin with, metonymic processes identified radiation as a byproduct of the *bad Russian bombs*. Within the metonymic process that located radiation as an extension of Russian threat, metaphorical strategies were employed to denote its harmful effects. In fact, frequently during this time, radiation was characterized as topoi of danger and disease. Among the most prominent metaphors used to define

radiations I have found RADIATION IS IMPURITY or RADIATION IS POISON as the most effective to propagate a sense of hopeless anxiety. With the emergence of the Russia threat, the categorization of the different elements within the domain of nuclear energy veered into more aggressive representations. Thus, metaphors such as ATOMIC AFFAIRS ARE ATOMIC WAR and ATOMIC CONFLICT IS ATOMIC HOLOCAUST became the constituent framework for the new nuclear order. In this new landscape the US moved from an active position of attack and retaliating into the more defensive approach of *duck and cover*.

Text-receivers during this stage developed anxiety of the unknown dangers that nuclear weapons entailed. Simulations based on the type of language delivered by newspapers and institutions could not have a positive interpretation, mostly because only negative strategies were employed to recreate the conceptual map of nuclear affairs. Drastically, Russia became the epitome of human extinction. However, at this *hot* time in the Cold War, any attempt to understand the universe of atomic matters was shaded with the tone of a pessimistic frame; what made American unconsciously vulnerable and feeble, definitely unable to fight back.

A calmer period of cordial relationships and intentions of ease the atomic tensions replaced this stage. '*The Atomic Talks: 1962-1979'* was the time when the dynamic structure of the nuclear category was transformed into a model of agreements and common goals. This *blackout* period was not as relevant as the rest of the Cold War Era in terms of atomic representations. Instead, nuclear affairs entered into a lethargic mood. Through the years that go from 1963 until 1979 media discourse adjusted the style to the political and ideological needs of a Government attempting to assuage the tensions of the Cold War. Correspondingly, conceptual metaphors from this period evidenced the

transformation of discourse and ideological approach regarding nuclear matters. Extensively repeated, the JOURNEY metaphor stand for a political approach based on a unique road towards peace. Among the most popular ways of representing the atomic talks, the metaphor RUSSIA AND THE US TALKS ARE RUSSIA AND THE US TAKING STEPS TOWARD PEACE graphically depicted the cordial and optimistic mood of journalists and authorities at that time.

Media discourse portrayed the US and Russia walking hand in hand in the same direction and with a common goal. This positive approach to international relationships between the two superpowers revered on the lessening of public opinion's anxiety. Only by the last half of this stage, a tendency to go back to old formulas of conflict and race emerged. The terrain was getting ready for a coming back of the nuclear arm race, which, this time, would be modernized and located in outer space. Text-receivers, which had undergone an *atomic* sleep of almost two decades awoken to a new universe of awesome nuclear threats.

The last period of the Atomic, which I called '*Back To The Nuclear Threat: 1980-*1991', opened with the resurgence of a schema of vulnerability and defense that, one more time, situated text-receivers in a mood of despair and hopelessness. The media presenting powerful images of lethal weaponry stirred simulations that activated negative responses in the overwhelmed text-receivers, which were not capable of processing the extremely complexity of the new nuclear lexicon. In fact, the threat of a power Russia capable of systematic thermonuclear attacks predominated during this time. Similarly to what happened during the third stage of the Atomic Age (1953-1962), by means of metonymic processes soon Russia might became reflected by a terrifying nuclear winter.

Powerful metaphors of destruction, darkness, and climate change were employed to emphasize the need for a shield. This defensive model was based on the fundamental principle of SDI gave way to a conceptualization based on a combination of CONTAINER and WAR metaphors. However, this conception, based a priori on defense rather than offense, turned soon into another type of war: Star War. At this point a new taxonomy of nuclear terminology invaded the category to generate a feeling of incomprehension and vastness that overwhelmed text-receivers.

Soon enough, however, that style was abandoned to give way to the final stage on atomic affairs within the Cold War. It was when discourse echoed the sense of termination and complexion and text-receivers were able to detach—to a certain extend—from the anxiety and uncertainty of the concluded Atomic Age. Reporters returned to the model of the event-structure metaphor SOURCE-PATH-GOAL. Similarly to the time of the first atomic talks, in this last stretch of the Cold War Russia and the US are depicted as walking hand in hand toward peace. This rapid termination, however, occasioned that the media ceased of presenting any information regarding atomic affairs; after 1991 newspapers rarely addressed nuclear conflict.

The Power of Media Manipulation and the Establishment of Truth Beliefs

This work attempted to undergo a critical analysis of texts that, a priori, could not be considered discriminatory language. Evidences showed that media language was consistently manipulative; and more importantly, it shaped the way text-receivers interpreted and believe the Atomic Age. In fact it is not only the language of discrimination and racism was subject to the influence of Machiavellian interests. Instead a wider range of texts should be included in the lists of potential strategic discourse that shape the way we, text-consumers, perceive the world. In my opinion, more attention should be paid to those conspicuous types of discourse that appear to be inoffensively but that in fact are ideologically loaded to make us behave and believe in certain type of truth criteria. As Lakoff recently blogged:[1]

> A common neuroscience estimate is that about 98 percent of thought is unconscious and automatic, carried out by the neural system. Daniel Kahneman has since brought frame-based unconscious thought into the public arena in what he has called "System 1 thinking." Since frames carry value-based inferences with them, successfully framing public discourse means getting the public to adopt your values, and hence winning over the public by unconscious brain change, not by open discussion of the values inherent in the frames and the values that undergird the frames.

The importance of unconscious brain change is essential for a discourse of manipulation and power. For that reason, language analysts should pay close attention not only to discriminatory discourse but also to any type of discourse that is susceptible of provoke unconscious thought that would occasion brain change.

Ideologies are created as the necessities of powerful institutions in order to control and manage perspective and points of view within the domain of the in-group values. Concepts and ideas base their understanding on a set of linguistic definitions that pin

[1] http://georgelakoff.com/blog/ (Last time accessed 7/2/2014)

them down within the universe of already establish meaning. Language, in that sense, becomes the most powerful element within the domain of belief systems and whoever controls language exercises supremacy over the muscle of ideology. The media, always in the eye of the hurricane, has been blamed for the abusive infliction of incommensurable manipulation. What it has not been explored in the same way is how text-receivers are conceptually chained to the vicissitudes and changing tastes of media discourse.

What this dissertation attempted was not only to show that media discourse is biased and manipulative, but also that the language of the media, with its powerful influence and prevalence, has the potential to wire our brains in a way that facilitates the understanding of events accordingly with the institutional voice that controls media. Nuclear discourse has been an important cornerstone of American ideology for the last seventy years and it is undeniable that they way we think about nuclear matters has been wound by political interests, powerful narrative voices, and a set of discursive strategies that have made possible to perceive nuclear threat, glories, and expectations in a very particular manner. As Derrida (1984: 23) points out:

> [Nuclear war] has existence only through what is said of it, only where it is talked about. Some might call it a fable, then, a pure invention: in the sense in which it is said that a myth, an image, a fiction, a utopia, a rhetorical figure, a fantasy, a phantasm, are inventions.

Without invented concepts such as Cold War, nuclear race, atomic holocaust, or nuclear winter our conceptualization of nuclear affairs would be different. The very core of the mental concept of nuclearity relies on those imaginary conceptual images to infer its institutional meaning. What we think nuclear is owes its essence to the language that, powerful institutions, mostly the media, emphatically and extensively employed to fortify

it. This dissertation provided enough evidence to prove that the way text-receivers interpreted the world was conditioned, at least in part, by the intentions deployed by text-producers—in this case I focused on news text producers. The conceptual interpretation and accommodation of the *Atomic Age* created a new world order with powerful implications that are still current in the arena of international relationships.

However, this work is limited in the sense that it focused on print media, leaving out political discourse, television, or radio. In this sense, I agree with Schwebel (1990: 523), who claims that:

> Many realities, like that of nuclear threat, are beyond even simple categorization of physical or social, because they are so multidimensional. To comprehend the full meaning of the nuclear age, one must draw upon the physical, natural, behavioral, and social sciences, as well as history and literature.

While this work analyzed a large amount of newspapers articles and presented substantial proofs that are solid enough as to reach conclusions regarding the persuasive power of media discourse; I also believe that further research must be done in other type of discursive modes to see to what extend the patterns found in print media are consistent in other texts such as political speeches, radio programs, cinema, or literature. Two areas interest me in particular, Civil Defense propaganda and filmography from the Atomic Age, particularly at the level of multimodal metaphors and the intersection between images and words that facilitate the emergence of the powerful iconic ideology of the *mushroom cloud*.

In sum, the prominence and importance of nuclear discourse was, and still is, such that any attempt to capture its idiosyncrasy feels minuscule compare to the large and substantial effect that nuclear rhetoric had had in public opinion's belief system from the beginning of the history of the Atomic Age. I feel that my contribution is just a small part

of a larger puzzle that should include a multidisciplinary approach that would take us to understand the intrinsic consequences of American's ideological approach to nuclear affairs. All in all, I believe that this dissertation brings light to a parcel of atomic history that had been, to a certain extend, neglected of its importance: nuclear discourse and conceptualization.

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APENDIX

1945-1949			
GLOBAL TOPIC	**CONCEPTUAL STRUCTURE**	**CONCEPTUAL METAPHOR**	**LINGUISTIC REPRESENTATION**
Blast Power of New Weapon Most Terrific in War Annals, 8/7/45 Washington Post			
Atomic energy	FORCE	ATOMIC ENERGY IS A FORCE	It is an atomic bomb. It Is a harnessing of the basic power of the universe. The force from which the sun draws its powers has been loosed against those who brought war to the Far East
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The battle of the laboratories held fateful risks for us as well as the battle on the air, land and sea and we have now won the battle of the laboratories as we have won the others battles
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	The fact that we can release atomic energy ushers in a new era in man's understanding of nature's forces
New era	FORCE	ATOMIC ENERGY IS A FORCE	The fact that we can release atomic energy ushers in a new era in man's understanding of nature's forces
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	It is an atomic bomb. It Is a harnessing of the basic power of the universe.
Atomic energy	MYTH	AMERICAN SCIENTISTS ARE CREATORS	No man-made phenomenon of such tremendous power has ever occurred before
Atomic energy	MYTH	ATOMIC BOMB IS A WONDER	But the greatest marvel is not the the size of the enterprise, its secrecy, nor its cost, but the achievement of scientific brains in putting together infinitely complex pieces of knowledge held by many men in different fields of science into a workable plan
ATOMIC BOMB STORY! 8/7/45 Chicago Tribune			
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	The President said that the successful effort to harness the power of the universe required 2 billion dollars and three years work
Atomic energy	FORCE	ATOMIC BOMB IS A FORCE	the greatest destructive force in history
Atomic energy	MYTH	ATOMIC BOMB IS A WONDER	he held out no hope to the allies, however that Japan can be bombed into submission with the celestial energy torn from the atom
Atomic energy	MYTH	ATOMIC BOMB IS A WONDER	Mr. Truman announcement gave a dramatic recital of this first realization of the dreams of the scientists to release the magic power of the atom and bend it to the uses of man
Atomic energy	MORALITY	ATOMIC BOMB IS A PROMISE	Atomic fission, said Stimson, holds great

			promise for sweeping development by which our civilization might be enriched when peace comes.
POWERS OF SUN HARNESSED TO MAKE NEW BOMB, 8/7/45 Chicago Tribune			
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	POWERS OF SUN HARNESSED TO MAKE NEW BOMB
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	POWERS OF SUN HARNESSED TO MAKE NEW BOMB
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A COSMIC FORCE; ATOMIC BOMB IS A LIVING THING	Physicists and scientists working in half a dozen American universities including the University of Chicago, have harnessed the power of the sun and sealed it into the "atom bomb" which President Truman announced yesterday has fallen for the first time in Japan with the force of 20.000 tons of TNT
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	The sun's power is its heat, but it does not come from ordinary combustion as in a simple fire
Atomic energy	MYTH	ATOMIC BOMB IS A WONDER	This meant that while the cyclotron led to the discovery of uranium's miraculous qualities it Is not necessary to haul around any gigantic cyclotrons to ignite it in warfare or in peace
Atomic energy	MORALITY	POWER IS MORE	there are 2.500 billion billion atoms In 8 gram of U·235 and 453.72 grams in a pound, each split of one atom releases 200 million volts of atomic binding energy
Atomic energy	FORCE	ATOMIC BOMB IS A DANGER	Scientists scoff at the Idea that the atom splitting Which releases such gigantic energy from U-235 will split the rest of the atoms in earth causing the whole world to go up in a gigantic explosion
ATOMIC BOMB HITS JAPAN, 8/7/45 Los Angeles Times			
Atomic energy	FORCE	ATOMIC BOMB IS A FORCE	The most terrible destructive force ever harnessed by man
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	The most terrible destructive force ever harnessed by man
Atomic energy	MORALITY	POWER IS MORE	President Truman said the new bomb, which draws its energy from the same sources as the sun, has more power than 20,000 tons of TNT: itself a tremendously powerful explosion itself
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The announcement heralded an Anglo-American victory at a cost of $2,000,000,000 In one of the grimmest battles of the war-the battle of the laboratories to unlock the secret of the atom and yoke its energies to military use

Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET	The announcement heralded an Anglo-American victory at a cost of $2,000,000,000 In one of the grimmest battles of the war-the battle of the laboratories to unlock the secret of the atom and yoke its energies to military use
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET	Still thick secrecy shrouds much of the atomic bomb despite the intense excitement
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET	What goes on in these plans and others is still one of American greatest secrets
Conflict	LINK	POSSESSION IS CONTROL, LINK SCHEMA	Recently another group of policy controllers was set up under secretary Stimson for the task of handing control of the weapon and its development for peace as well as for war– developments so great they may be yet undreamed of
Atomic energy	MYTH	ATOMIC ENERGY IS A WONDER	Recently another group of policy controllers was set up under secretary Stimson for the task of handing control of the weapon and its development for peace as well as for war– developments so great they may be yet undreamed of
Bomb Staggers Imagination, Stimson Says, 8/7/45 Washington Post			
Atomic energy	CONTAINER	ATOMIC BOMB IS ACHIVEMENT	The recent use of the atomic bomb over Japan, which was today made known by the President, is the culmination of years of herculean effort on the part of science and industry working in cooperation with the military authorities
Atomic energy	CONTAINER	ATOMIC BOMB IS ACHIVEMENT	A large number of American scientists were pressing forward the boundaries of scientific knowledge in this fertile new field at the time when American science was mobilized for war
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	The decision to embark on large scale production at such, an early stage was, of course, a gamble, but as is so necessary in war a calculated risk was taken and, the risk paid off
Atomic energy	MYTH	ATOMIC ENERGY IS A PROMISE	Atomic fission holds great promise for sweeping development by which our civilization may be enriched when peace comes, but the overriding necessities of war have precluded the full exploration of peacetime applications of this new knowledge
Conflict	LINK	POSSESSION IS CONTROL	The committee is charged with the responsibility of formulating recommendations to the President concerning the postwar organization that should be established to direct and control the future course of the United States in this field
Steel Tower Is Transformed Into Gas in Sensational Test In New Mexico Desert, 8/7/45 Washington Post			

New era	CONTAINER	ATOMIC ERA IS A CONTAINER	This sensational disclosure was made in a report on the opening of the "age of atomic energy,'" when the first United States atomic bomb was exploded on a remote section of the New Mexico desert on July 16, 1945
Atomic energy	MORALITY	POWER IS MORE	No man-made phenomenon of such tremendous power has ever occurred before
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	Last man to inspect the cosmic bomb was Bainbridge
New era	JOURNEY	ATOMIC ERA IS A NEW PATH	Everyone felt a profound new responsibility to help in guiding into the right channels the tremendous forces which had been unlocked for the first time in history
New era	PERSONIFICATION	ATOMIC ERA IS A PERSON	Farrell added that everyone present felt that he had witnessed the birth of a new age-"the age of atomic energy"
NEW AGE USHERED, 8/7/45 The New York Times			
Atomic energy	FORCE	POWER IS MORE	The White House and War Department announced today that an atomic bomb, possessing more power than 20,000 tons of TNT, a destructive force equal to the load of 2,000 B-29's and more than 2,000 times the blast power of what previously was the world's most devastating bomb, had been dropped on Japan.
Atomic energy	FORCE	ATOMIC BOMB IS A FORCE	The White House and War Department announced today that an atomic bomb, possessing more power than 20,000 tons of TNT, a destructive force equal to the load of 2,000 B-29's and more than 2,000 times the blast power of what previously was the world's most devastating bomb, had been dropped on Japan.
New era	JOURNEY	NEW ERA IS A JOURNEY	The announcement, first given to the world in utmost solemnity by President Truman, made it plain that one of the scientific landmarks of the century had been passed, and that the "age of atomic energy," which can be a tremendous force for the advancement of civilization as well as for destruction, was at hand
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	What is this terrible new weapon, which the War Department also called the "Cosmic Bomb"? It is the harnessing of the energy of the atom, which is the basic power of the universe
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	What is this terrible new weapon, which the War Department also called the "Cosmic Bomb"? It is the harnessing of the energy of the atom, which is the basic power of the universe
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	Stimson acknowledged that "we are at the threshold of a new industrial art which will take many years and much expenditure of money to develop."

Atomic energy	MYTH	ATOMIC ENERGY IS A PROMISE	"Atomic fission holds great promise for sweeping developments by which our civilization may be enriched when peace comes, but the overriding necessities of war have precluded the full exploration of peacetime applications of this new knowledge," Mr. Stimson said.
BILLOWING FIRE BALL DIMS SUN IN DESERT TEST, 8/7/45 Chicago Tribune			
New era	PERSONIFICATION	ATOMIC ERA IS A PERSON	The birth of a new age-the atomic age announced tonight by the war department in a graphic description of the test of America's new "secret weapon," the atomic bomb, In the desertlands of New Mexico
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	Mankind's successful transition into a new age, the atomic age, was ushered in July 16, 1945
Atomic energy	FORCE	POWER IS UP	A massive cloud was formed which surged and billowed upward with tremendous power, reaching the substratosphere in about five minutes
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Then came a tremendous sustained roar and a heavy pressure wave which knock down two men outside the control center
Atomic energy	CONTAINER	ATOMIC ERA IS A CONTAINER	We are at the threshold of a new industrial art which will take many years and much expenditure of money to develop
Atomic energy	MORALITY	ATOMIC BOMB IS ACHIVEMENT	This Herculean project had been justified
U.S. ATOM BOMB SITE BELIES TOKYO TALES, 9/12/45 The New York Times			
New era	PERSONIFICATION	ATOMIC ERA IS A PERSON	This historic ground in New Mexico, scene of the first atomic explosion on earth and cradle of a new era in civilization
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	That historic morning of Monday, July 16
Atomic energy	FORCE	POWER IS MORE	Tremendous power of the blast
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	It was the final punch that knock them out
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	In charge of the historic test explosion that gave the go-ahead signal
We enter a new era–the atomic age, 8/12/45 The New York Times			
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	For better or for worse we have entered upon a new era in the history of mankind
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	The power of the atom has been unleashed

Atomic energy	MYTH	ATOMIC BOMB IS A MYTH, PROMETHEAN MYTH	The development is of Promethean significance. Generations millenniums hence may look back upon these years when atomic energy was first put to work in the same spirit in which we now think if the less well documented occasion when man first learned the use of fire
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET	The secret of the nucleus became known to man because nature betrayed It in the phenomenon of radioactivity
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Atomic science is still in its infancy
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	If atomic explosions can be properly tamed, as molecular explosions have already been, the world may well enter a new era in which everything up to the middle of the twentieth century will seem only a short step from the caveman's shadowed home into the sun
Discovery of Atomic Power International Drama, 8/12/45 Washington Post			
Atomic energy	FORCE	POWER IS MORE	ON Sunday, May 5. 1940, the world learned of the discovery of a new source of power millions of times greater than anything ever know
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	There must be something that extinguishes cosmic fire
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	It was the U-235, Doctor Bohr and Doctor Wheeler concluded, that was starting the atomic fires
Atomic energy	MORALITY	ATOMIC BOMB IS THE DISCOVERY OF A CONTINENT	Lise Meitner experienced sensations that must have hit Columbus when he first sighted land-was it the East Indies? A mirage? A new continent? If her figures were right-and they could be checked–she and Doctor Hahn had accidentally stumbled upon one of the greatest discoveries of the age
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	Another feverish scientific pace was set
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	If America were to lose the lead in this field, a few thousand dollars invested for research now, might be worth hundreds of millions in the future
Era of Atomic Energy Born, Says Physicist, 8/24/45 Los Angeles Times			
New era	PERSONIFICATION	ATOMIC ERA IS A PERSON	Era of Atomic Energy Born, Says Physicist
New era	CONTAINER	ATOMIC ENERGY IS A NEW ERA	"The atomic bomb" he said, is a dramatic introduction of a new era–the age of atomic energy
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	We are indeed privileged to be alive and to witness the birth of this new epoch in man's progress
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	We can now go directly to the same sources that maintain the eternal fires of the sun itself

Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	The stone age, the iron age, the age of steam power, of combustion engines and electronics– all have developed with increasing tempo, and I think the realization of atomic energy for useful peaceful purposes will rapidly remake our lives
Drama of the Atomic Bomb Found Climax in July 16 Test, 9/26/45 The New York Times			
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	The Atomic Age began at exactly 5:30 Mountain War Time on the morning of July 16, 1945, on a stretch of semi-desert land about fifty airline miles from Alamogordo, N. M., just a few minutes before the dawn of a new day on this earth
Atomic energy	MYTH	LIGHT METAPHORS	At that-great moment in history, ranking with the moment in the long ago when man first put fire to work for him and started on his march to civilization. The vast energy locked within the hearts of the atoms of matter was released for the first time in a burst of flame such as had never before been seen on this planet, illuminating earth and sky for a brief span that seemed eternal with the light of many super-suns
New era	PERSONIFICATION	ATOMIC ERA IS A PERSON	I watched the birth of the Era of Atomic Power from the slope of a hill in the desert land of New Mexico
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	The elemental flame, first fire ever made on earth that did not have its origin in the sun, came from the explosion of the first atomic bomb
Atomic energy	FORCE	ATOMIC BOMB IS A NATURAL ELEMENT	The new-born mountain in the distance, a giant among pigmies against the background of Sierra Oscuro Range, stood leaning at an angle against the clouds, a vibrant volcano spouting fire to the sky
Atomic energy	FORCE	ATOMIC BOMB IS A NATURAL ELEMENT	The new-born mountain in the distance, a giant among pigmies against the background of Sierra Oscuro Range, stood leaning at an angle against the clouds, a vibrant volcano spouting fire to the sky
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	The sun was just rising above the horizon as our caravan started on its way back to Albuquerque and los Alamos. It rose to see a new thing under the sun, a new era in the life of man
No Sharing of Atomic Secret-Truman, 10/9/45 Los Angeles Times			
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	No Sharing of Atomic Secret—Truman
Conflict	LINK	POSSESSION IS CONTROL	In effect, he said that man is getting too smart-that he will have to control his machines of destruction in cooperation with his neighbors
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Atomic bombs and their horrifying offspring are not being produced

Conflict	FORCE DYNAMIC	ACHIEVEMENT IS MOVEMENT	The scientist said there is "a rapidly ascending curve" of scientific activity in Russia, pushed wholeheartedly by the government
Conflict	FORCE DYNAMIC	ACHIEVEMENT IS MOVEMENT	"I believe Russia is planning to embark on a program of Scientific research and development greater than that contemplated by any other nation."
Atom Is Force to Destroy -- or Humanize Man, 10/28/45 Washington Post			
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The atomic age will be a period of keenest rivalry between nations and social systems. The prize to be won is prosperity and world leadership. It can include peace and security
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	It must be remembered that the atom bomb is in its infancy
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	Next to cosmic rays, these radiations are the most penetrating that we know
New era	JOURNEY	TECNOLOGY IS A PATH	Atomic power is just one more step along the path of technological progress, may be the supreme gift of physical science to the' modern age
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	Great Field Opens
How Can We Prevent Atomic War? 1/13/46 The New York Times			
Conflict	JOURNEY	ATOMIC ERA IS A JOURNEY	WE are today very near to the edge of an abyss and at least for a generation to come we cannot risk a greater strain. A war in which atomic bombs were employed to destroy within as many days the twelve most important cities in the North American Continent or the twelve most important cities now remaining in Europe might be too much for us
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The atomic age will be a period of keenest rivalry between nations and social systems
Atomic energy	FORCE	ATOMIC BOMB IS A POISON	we may assume that no effective antidote to this bomb Is likely to be found. Even if it were found, we should not be sure that within a short time the antidote itself could not be neutralized and deprived of its salutary effect
Conflict	JOURNEY	ATOMIC ERA IS A JOURNEY	Is there then no hope of safety? Must we drift into a position in which we are at the mercy of any evilly disposed group of men who can win control of a powerful nation and exact obedience from it?
Conflict	LINK	POSSESSION IS CONTROL, CONTROL IS FREEDOM	Every new instrument of force under state control lessens the chances of successful revolution–the last safeguard to perpetual tyranny
Atom Control Put Up to Entire UN, 1/14/46 Washington Post			
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	Assembly of the Six-Power resolution for control of atomic energy
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	Control of atomic energy to the extend necessary to insure its use for peaceful purposes only

Conflict	LINK	POSSESSION IS CONTROL	The steering committee ruled that the Assembly should debate this resolution
Conflict	FORCE DYNAMIC	PROBLEMS ARE OBJECTS RUBBING EACH OTHER	it is the source of the only existing friction among the signatories of the Moscow atomic agreement
Conflict	CONTAINER	POLITICIANS SEAKING CONTROL ARE WATCHDOG GUARDING A HOUSE	The Assembly's watchdog for signs and causes of war
Military Control of A-Bomb Called Signal for Arms Race, 3/1/46 Washington Post			
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Military Control of A-Bomb Called Signal for Arms Race
Conflict	LINK	POWER IS CONTROL	Sen Brian McMahon (D. Conn) said tonight that failure to transfer control of atomic energy to a civilian agency would be a signal to the world that an atomic armament race is on
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Sen Brian McMahon (D. Conn) said tonight that failure to transfer control of atomic energy to a civilian agency would be a signal to the world that an atomic armament race is on
Conflict	LINK	POSSESSION IS CONTROL	We should now give notice to the world that we regard atomic energy as a force for peace by handing its control over to a civilian agency
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Second, it would be interpreted abroad as a sign that the United States condones an atomic armament race
World Body on Atomic Power Urged, 3/29/46 Los Angeles Times			
Conflict	LINK	POSSESSION IS CONTROL, ATOMIC ENERGY IS A LIVING THING	The State Department's committee on atomic energy tonight reported that peaceful, progressive control of this awful force must be given to an all-powerful international commission instead of a global police said seeking to handcuff its uses for war
Conflict	LINK	POWER IS CONTROL	powers to control atomic energy from the earth to the finishing plant
Conflict	MORALITY	ATOMIC ENERGY IS A BUSINESS	The United States, the report emphasizes, maintains a virtual monopoly now, on the know-how of the atomic bomb, but this cannot last for long
Atomic energy	PERSONIFICATION	ATOMIC WEAPONS ARE LIVING BEINGS	The art of atomic weapons is in its infancy
ATOM ENERGY SEEN RE-MAKING WORLD, 4/11/46 The New York Times			
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	Many of these promise to find great usefulness in many fields
Atomic energy	MYTH	ATOMIC ENERGY IS A PROMISE	April 10-Glimpses or a new promised land of chemistry in which atomic energy will be used to transform the world we live in by creating new elements at will

Atomic energy	CONTAINER	ATOMIC RESEARCH IS A SECRET, CONTAINER METAPHOR	Four leading participants in the atomic bomb project, including Professor Glenn T. Seaborg of the University of California, co-discoverer of plutonium and of elements 95 and 96, lifted the curtain of secrecy somewhat and outlined some of the potentialities in the application of atomic energy for industrial, medicinal and other peacetime purposes.
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	The reports were presented at a symposium on nuclear chemistry a new science that promises to play a major role in the chemistry of tomorrow and to affect vitally the life of man
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	To develop an international control system to prevent the diversion of materials
A-Bomb Blast May Split Shell Of Earth, Seismologist Warns, 6/11/46 Washington Post			
Atomic energy	FORCE	ATOMIC ENERGY IS CLIMATIC CHANGE	a warning from Anatol J. Shnelderov, a seismologist, that he fears there may be no survivors to report the explosion, and that the world's climate may be changed for decades
Atomic energy	FORCE	ATOMIC ENERGY IS A FORCE	Shneiderov computed the force necessary to crack the earth's outer shell, about 40 miles deep, into two halves, 3 meters apart. The force is a fantastic figure, In work units (ergs) where 1 is followed by 28 zeros. But he says the force of the atomic bomb is an almost equally fantastic figure, only 2 zeros shorter
Atomic energy	FORCE	ATOMIC ENERGY IS CONTAMINATION	The climate of the earth may be affected unfavorably for many decades if the quantity of dust erupted as a result of the experiment is several times that resulting from the explosion of Krakatoa
Atomic energy	FORCE	ATOMIC ENERGY IS A DANGER	The crack would extend by natural forces into a full-fledged earthquake
Atomic energy	FORCE	ATOMIC BOMB IS A NATURAL ELEMENT	The mushrooms of steam and dust from the bottom of the sea may surpass that of Krakatoa in the year 1883
BARUCH URGES PACT, 6/15/46 The New York Times			
Conflict	CONTAINER	ATOMIC RESEARCH IS A SECRET, CONTAINER METAPHOR	The United States formally offered yesterday to give up its store of atomic bombs and turn over all the secrets of harnessing atomic energy for peaceful means to an international Atomic Development Authority in which no nation could wield a veto power
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Mr. Baruch's plan was a bold bid to outlaw atomic energy as a means of mass destruction and thus avert a mad armament race among the nations of the world
Conflict	LINK	POSSESION IS CONTROL	To give the control body the full "know-how" on atomic energy when an adequate system for the control of atomic energy
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Give up not only the know-now of harnessing the energy
Atomic energy	LINK	ABSTRACT ENTITIES ARE PEOPLE, PHYSICAL POSSESSION IS CONTROL	Creation or operation of dangerous projects in a manner contrary to, or in the absence of, a license granted by the international control body

ABC OF THE BIKINI TEST, MILESTONE OF OUR AGE, 6/23/46 The New York Times			
New era	JOURNEY	ATOMIC AGE IS A JOURNEY	ABC OF THE BIKINI TEST, MILESTONE OF OUR AGE
New era	JOURNEY	ATOMIC AGE IS A JOURNEY	It will be the culmination of an elaborately contrived naval-military experiment known as Operation Crossroad
New era	JOURNEY	ATOMIC AGE IS A JOURNEY	He also gave it a name: Operation Crossroad, because, as he said, the science of warfare– perhaps the future of civilization itself–is at the crossroads
New era	JOURNEY	ATOMIC AGE IS A NEW PATH	As for fanfare, operation Crossroads has been one of the most thoroughly press-agented shows in modern history
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	Every move-except the secret ones-has been explained at press conferences
Antidotes for A-Bomb Sought in Bikini Tests, 6/29/46 Los Angeles Times			
Atomic energy	FORCE	ATOMIC BOMB IS A POISON	Antidotes for A-Bomb Sought in Bikini Tests
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	It is possible a solution will be reached before one third of the data have been digested
Atomic energy	MYTH	AMERICAN SCIENTISTS ARE CREATORS	The Army and Navy are searching for an effective means to keep the terrible thing we created to destroy our late enemy from being used against us
Conflict	FORCE DYNAMIC	RUSSIA IS A LIVING BEING, NEGOTIATION IS A CONTAINER	And if the USSR is unwilling to enter a pact banning atomic missiles
Conflict	MORALITY	ATOMIC RESEARCH IS PHYSICAL STRUGGLE	American never can afford to relax her efforts to circumvent the use of atomic artillery against us
Crossroads, 6/30/46 The New York Times			
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	The test bears the prophetic name "Operation Crossroads." and it may well be a crossroads for man himself as well as the arms he has devised
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	Man will have his first chance to comprehend in precise terms the cosmic force he has released
Atomic energy	MYTH	ATOMIC BOMB IS COLOFULL LIGHT	The whole country was lighted by a searing light with the intensity many times that of the midday sun. It was golden, purple, violet, gray and blue. It lighted every peak, crevasse and ridge of the nearby mountain range
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Thirty seconds after the explosion came: first the air, blast pressing hard against the people and things to be followed almost immediately by the strong, sustained, awesome roar which warned of doomsday
Conflict	CONTAINER	ATOMIC RESEARCH IS A SECRET	Two of the dominant powers, Britain and America, have applied the secrets of nuclear fission to the manufacture of bombs.
Fiery 'Super Volcano' Awes Observer of 3 Atom Tests, 7/1/46 The New York Times			

Atomic energy	FORCE	ATOMIC BOMB IS A NATURAL FORCE	Fiery 'Super Volcano' Awes Observer of 3 Atom Tests
Atomic energy	MYTH	ATOMIC BOMB IS A COSMIC FORCE, UP IS POWER	As I watched the pillar of cosmic fire from the skydeck of this ship it was about eighteen miles to the northeast
Atomic energy	FORCE	ATOMIC BOMB IS A NATURAL FORCE	It was an awesome, spine-chilling spectacle; a boiling, angry, super volcano struggling toward the sky, belching enormous masses of iridescent flames and smoke and giant rings of rainbow, at times giving the appearance of a monster tugging at the earth in an effort to lift it and hurl it into space
Atomic energy	MYTH	ATOMIC BOMB IS A NEW BORN STAR	It was like watching the birth and the death of a star, born and disintegrated in the instant of its birth. The new-born star made its appearance in a flash so dazzling no human eye could look at it except through dark goggles that turned bright daylight over the Pacific into a pitch-dark night
New era	JOURNEY	ATOMIC ERA IS A JOURNEY	Today we stand at the crossroad, the destiny of the world will be decided probably in the next five years, probably in the next six or twelve months.
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	They had many instruments aboard and they would let us much about what is goes on in that boiling mass of atomic fire
Man on Threshold of Industrial Use of Atomic Energy, Says Lawrence, 7/27/46 Los Angeles Times			
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	Man on Threshold of Industrial Use of Atomic Energy, Says Lawrence
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	We are truly on the threshold of a new era of limitless energy reserves
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	The atom power plants obtain their energy from the same source as provides the energy for the sun itself, the transformation of nuclear matter into energy
Atomic energy	MORALITY	ATOMIC ENERGY IS STRUGGLE	To my way of thinking this atomic energy industrial development should he pushed with all vigor
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	It is your job and mine to see that we do not lag behind any possible enemy either in nuclear physics or any other field of research and engineering of importance to the defense of the nation
Russia Aims to Scrap U.S. Atomic Bomb, 11/30/46 Los Angeles Times			
Conflict	JOURNEY	ATOMIC NEGOTIATIONS ARE A PATH	The Soviet Union left no doubt today that it is its aiming to scrap the American atom bomb as the first step of the arms' reduction program proposed in the United Nations
Atomic energy	MYTH	ATOMIC ENERGY IS A DANGER	The atom bomb is a sword of Damocles suspended by a thin thread
Atomic energy	LINK	LINK SCHEMA	Only by removing such a menace can we establish security

Conflict	JOURNEY	ATOMIC NEGOTIATIONS ARE A PATH	The U.S, attaches great importance to the necessity for reaching agreement in the Atomic Energy Commission with the utmost dispatch on specific proposals to control the use of atomic energy
Conflict	JOURNEY	ATOMIC NEGOTIATIONS ARE A PATH	The United Nations must go further than the mere outlawing, of the list of deadly weapons if it is to protect peace loving states against the use of such weapons by aggressor nations
Dec. 2, 1942-The Birth of the Atomic Age, 12/1/46 The New York Times			
New era	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	Dec. 2, 1942-The Birth of the Atomic Age
Atomic energy	MYTH	ATOMIC BOMB IS FIRE	TOMORROW will be the first official birthday anniversary of the atomic age, commemorating that fateful December day when man lighted the first atomic fire on this planet, the first fire that did not have its origin in the sun.
Atomic energy	MYTH	ATOMIC SCIENTISTS ARE CREATORS, PROMETHEAN MYTH	The man-made element that destroyed Nagasaki
Atomic energy	FORCE	ATOMIC BOMB IS A COSMIC FORCE	For it was on that day. Dec. 2, 1942. at the gloomy squash court underneath the west stands of Stagg Field on the University of Chicago campus, that man succeeded at last in operating an atomic furnace, the energy of which came from the vast cosmic reservoir supplying the sun and the stars with their radiant heat and the nucleus of the atoms of which the material universe is constituted
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	The atomic "baby" had emitted its first lusty cry
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	It marked the end of an era and the beginning of a new one, with incalculable potentialities for good and for evil.
Warns of Red Atom Plant Plans, 1/28/47 Chicago Tribune			
Conflict	JOURNEY	ATOMIC NEGOTIATIONS ARE A PATH	If the Russians are sincere, in their desire to do away with atomic and other weapons of mass destruction, and I sincerely hope they ,are, he told the senate, then I see no reason why they should refuse to acquiesce in this proposal for peace and go forward to the establishment of the atomic development authority and the era of world-wide peace and prosperity which must follow
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	Until we have such control we will never dare to release atomic energy for the peaceful uses which might raise standards of living among the peoples of the world to the point where they would have no interest in the siren song of soviet propaganda
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	Until we have such control we will never dare to release atomic energy for the peaceful uses which might raise standards of living among the peoples of the world to the point where they would have no interest in the siren song of soviet propaganda

Conflict	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	There is no way of knowing how far other nations have advanced on atomic weapons
Conflict	FORCE DYNAMIC	GETTING SOME DESIRED OBJECT IS ACHIVEMENT, ACHIVEMENT IS POWER	It seems obvious to me that a more likely explanation Is that Kapitza is now busily at work behind the Urals constructing an atomic fission plant
Russia Building Secret Atom Bomb Plant, Senator Fears, 1/28/47 Los Angeles Times			
Conflict	FORCE DYNAMIC	GETTING SOME DESIRED OBJECT IS ACHIVEMENT, ACHIVEMENT IS POWER	Sen. Brien McMahon (D.) Ct.; raised the curtain on the first full-dress Congressional review of atomic policy today with the charge that Russia probably is building a secret atomic bomb plant somewhere in Siberia
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	He urged that international control of the dreaded A-bomb be taken out of the hands of the United Nations Security Council and written into a global treaty which could be enforced promptly and forcefully without veto by any of the major powers
Conflict	FORCE DYNAMIC	GETTING SOME DESIRED OBJECT IS ACHIVEMENT, ACHIVEMENT IS POWER, ATOMIC DATA IS A SECRET OBJECT	He said other nations are "working day and night" to unlock the secret of the atomic bomb
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA, CONTAINER SCHEMA	That policy called for immediate establishment of an international control with the authority to inspect atomic projects in all countries and to punish violators of the U.N. atomic regulations
Conflict	FORCE DYNAMIC	GETTING SOME DESIRED OBJECT IS ACHIVEMENT, ACHIVEMENT IS POWER	A more likely explanation is that Kapitza is now busily at work behind the Urals constructing an atomic fission plant
Reds Getting Atom Plant, Senator Fears, 1/28/47 Washington Post			
Conflict	FORCE DYNAMIC	GETTING SOME DESIRED OBJECT IS ACHIVEMENT, ACHIVEMENT IS POWER	Raised the curtain on the first full-dress congressional review of atomic policy with the charge that Russia probably is building a secret atomic bomb plant somewhere in Siberia
Conflict	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	We are engaged in a choice between the quick and the dead
Conflict	LINK	ATOMIC ENERGY IS AN EXCLUSIVE BUSINESS	The clock ticks on, he said ominously, and with every tick we are losing part of our capital of monopoly (on atomic secrets)
Conflict	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	The clock ticks on, he said ominously, and with every tick we are losing part of our capital of monopoly (on atomic secrets)
Destruction or Utopia on Earth? Atomic Energy May Mean Difference, 12/1/47 Los Angeles Times			
Conflict	CONTAINER	USING ATOMIC ENERGY IS DESTROYING THE AMERICAN BUILDING	Destruction or Utopia on Earth? Atomic Energy May Mean Difference, 12/1/47 Los Angeles Times

Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	Robert L. Hutchins, chancellor of the University of Chicago writes in the December American magazine that atomic bombs can annihilate all life on earth but that if war ceases, atomic energy can make man life as long as Methuselah
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	"Lawns and gardens," he adds, "will be luxuriant, for atomic energy promises fertilizers and soil balancers more powerful than any known today, There will be flowers such as we do not have at present. for the atomic principle has the power to alter forms of plant life, just as it alters the structure of minerals.
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	The end of human suffering, he declares. If we are permitted to live at all, there is no reason we cannot expect to live as long as Methuselah
Conflict	LINK	MORALITY IS CONTROL, LINK SCHEMA	Salvation lies in establishment of international morality
New era	CONTAINER	ATOMIC ERA IS A CONTAINER	Atomic energy, he writes, makes all our conceptions of daily living obsolete, eradicates virtually all our limitations, cures all our maladies and opens the door to a way of life uncomplicated as that of a South Seas native
Reds Obtained Atom Secrets, Baruch Hints, 2/14/47 Chicago Tribune			
Conflict	CONTAINER	ATOMIC RESEARCH IS A SECRET, CONTAINER METAPHOR; RUSSIA IS A LIVING BEING	Bernard M. Baruch reportedly told senators today there is evidence that Russia has penetrated to some extend the secrecy wall this country has erected around atomic bomb production
Conflict	CONTAINER	INFORMATION IS A LIQUID	Baruch was, said to have testified that the form of certain questions put by the Russians In United Nations discussion of international atomic controls indicated there, had been security leaks
Conflict	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	That publication of the Smyth report had made It more difficult to keep atomic secrets
Conflict		COMMUNISM IS A THREAT	Tabbed as a possible communist sympathizer
Conflict		COMMUNISM IS A THREAT	Would approved the appointment of a man friendly to the Communist cause
Those Unkept Atomic Secrets, 2/21/47 Los Angeles Times			
Conflict	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	There is a great deal of exclamatory rhetoric aimed to persuade the public that the Smyth report let most of the atomic cats out of the bag
Conflict	LINK	POSSESSION IS CONTROL, POWER IS CONTROL	Scientists should be free to pass around information on the laws of nature but that it is a crime to give away our expensively acquired know-how in applying these laws
Conflict	CONTAINER	ATOMIC ERA IS A CONTAINER	David Lilienthal started it by telling the Senate that the worst "breach of atomic security" was the Smyth report
Conflict	JOURNEY	ATOMIC ERA IS A JOURNEY	So long as we have these things we are a jump ahead of the rest of the world in the production of fissionable materials.

Conflict	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	We have kept more secrets than we gave away and we are inventing new secrets all the time
Conant Urges International Atom Control, 4/25/47 Washington Post			
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	Conant Urges International Atom Control
Conflict	LINK	POWER IS CONTROL, LINK SCHEMA	President James B. Conant of Harvard University associated with the atomic research since 1941, said today: I still cling to the belief that international control will eventually succeed
Conflict	LINK	POSSESSION IS CONTROL, POWER IS CONTROL, LINK SCHEMA	Certainly acute statesmen, If, given the green light by their governments. Can formulate a series of stages for pulling the international control in operation that will safeguard not only the United States but the entire world
Conflict	LINK	POSSESSION IS CONTROL, POWER IS CONTROL	The international control scheme is in fact a myth
Conflict	LINK	POSSESSION IS CONTROL, POWER IS CONTROL	If we fail to get international control of atomic energy, the chances are very great that the time will come when another nation has sufficient nuclear fuel and know-how about bombs to constitute a military threat by this means to the United State
Decision Seen in 60 Days of Atom-Age War, 6/2/47 Los Angeles Times			
Conflict	FORCE DYNAMIC	RUSSIA IS A THREAT, ATTACK SCHEMA, FORCE DYNAMIC MODEL	Presidential commission drew back, the curtain today on atomic warfare of the future to hint at "the indescribable horror" of a single day's attack in which twelve of crippled or destroyed and our utilities, railroads and communication eliminated
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	We can expect immunity from such an attack because we alone possess the atomic bomb
New era	JOURNEY	ATOMIC ENERGY IS A NEW ERA	How far these developments may go
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Be interception of enemy attack and retaliation
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Attack might come so swiftly
Atomic Warfare Peril, 6/2/47 The New York Times			
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Atomic Warfare Peril Told By the Presidential Council
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Presidential commission drew back the curtain today on atomic warfare to hint an indescribable horror
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	The coming of war will be cataclysmic in its suddenness and its destructiveness
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT, CONTAINER SCHEMA	The crippling or destruction of a dozen of our cities
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Local troops, in addition to their responsibilities for policing and restoring vital services, the commission said, might have to sustain the initial force of a enemy invasion
A-BOMB 'TAMED'; HINT WAY EASED TO ATOM POWER, 8/30/47 Chicago Tribune			

Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING THING	A-BOMB 'TAMED'; HINT WAY EASED TO ATOM POWER
Atomic energy	JOURNEY	ATOMIC AGE IS A JOURNEY	May pave the way to tapping the tremendous power
Conflict	LINK	POSSESSION IS CONTROL, CONTROL IS POWER	the new pile which actually is a controlled form of the atomic bomb'
Atomic energy	PERSONIFICATION	ATOMIC RESEARCH IS A PERSON	The heart of the installation is a small vessel
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	Now we can begin to hope that men's toil can be lightened, which is the same as saying that their living standards can be raised
TAMING THE SPLIT ATOM, 8/31/47 The New York times			
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING BEING	The latest news from the Los Alamos Scientific Laboratory seems to bring us nearer to the day when the force that devastated Hiroshima and Nagasaki can be domesticated for peaceful uses
Atomic energy	MYTH	ATOMIC SCIENTISTS ARE CREATORS, PROMETHEAN MYTH	The process utilizes an element not existing in nature man-made plutonium-and a power plant only a small fraction of the size required when natural uranium and slow neutrons are employed
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	We are a bit nearer the glorious day when half a pint of fissionable material will drive a steamship around the world
Atomic energy	FORCE	ATOMIC ENERGY IS A DANGER	In another way this report from Los Alamos is good news on a day when good news is not displayed on every front page. It lifts a little of the heavy burden that the atomic bomb laid upon all of us.
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	Now we can begin to hope that men's toil can be lightened, which is the same as saying that their living standards can be raised
Atomic Energy Is Your Business, 1/11/48 The New York Times			
Atomic energy	MORALITY	ATOMIC ENERGY IS A BUSINESS	Atomic Energy Is Your Business, 1/11/48 The New York Times
Conflict	LINK	ATOMIC ENERGY IS A BUSINESS	It is true that our present monopoly in the production of such weapons will not last indefinitely, that in time other nations can produce atomic bombs.
Atomic energy	JOURNEY	ATOMIC ENERGY IS A NEW JOURNEY	The forces, then, within the atom are not new. Far from it, what is new is this that in our day, our generation, knowledge has so increased that we are now actually on the long road to understanding atomic energy and making it serve men's needs
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	The forces, then, within the atom are not new. Far from it, what is new is this that in our day, our generation, knowledge has so increased that we are now actually on the long road to understanding atomic energy and making it serve men's needs
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING, ATOMIC ENERGY IS A SERVANT	NEW professions' for young people, new hope for the afflicted, new understanding of how science can serve for peace-these are among the items on the agenda of the present and immediate future

New era	CONTAINER	ATOMIC ERA IS A CONTAINER	The door of knowledge is barely opened
Pope for Ban on Atom Bomb As 'Most Terrible' Weapon, 2/9/48 The New York Times			
Atomic energy	MORALITY	ATOMIC RESEARCH IS A CONQUEST	An admirable conquest of the human intellect, the Pope said
Atomic energy	MORALITY	ATOMIC RESEARCH IS PHYSICAL STRUGGLE	"The greatest of the results of this intense activity seems to be found in the fact that man through great efforts has finally succeeded in reaching the deepest knowledge of the laws regarding the formation and disintegration of the atom and in this manner to dominate in an experimental manner and up to a certain grade the unleashing of the powerful energy which emanated in many of these processes.
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING BEING	The greatest of the results of this intense activity seems to be found in the fact that man through great efforts has finally succeeded in reaching the deepest knowledge of the laws regarding the formation and disintegration of the atom and in this manner to dominate in an experimental manner and up to a certain grade the unleashing of the powerful energy which emanated in many of these processes.
Atomic energy	MORALITY	ATOMIC RESEARCH IS A CONQUEST	The admirable conquest of the human intellect which taxes and investigates the laws of nature is carrying humanity with it along new roads.
New era	JOURNEY	ATOMIC ENERGY IS A JOURNEY	The admirable conquest of the human intellect which taxes and investigates the laws of nature is carrying humanity with it along new roads.
U.S. Will Hold On to Atomic Secrets, Truman Pledges, 6/25/48 Chicago Tribune			
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	President Truman said today that he has ordered every effort to keep this country's "leading position" in the atomic field
Conflict	JOURNEY	ACHIVEMENT IS MOVEMENT, RUSSIA IS A BLOCK IN THE PATH OF ATOMIC RESEARCH	Russia, he said, is the stumbling block to progress toward such control
Atomic energy	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	And pending world control, "We cannot as a nation afford to disclose the secrets which make this new force the most deadly form or military weapon."
Conflict	FORCE	ATOMIC ENERGY IS A FORCE	And pending world control, "We cannot as a nation afford to disclose the secrets which make this new force the most deadly form or military weapon."
Atomic energy	MYTH	ATOMIC ENERGY IS A PROMISE	Mr. Truman, in his statement accompanying the report, said the commission reports "that recent experiments hold out the promise of more efficient production on the farm and in the factory and of an increase of mechanical and human energy for doing the world's work."
Conflict	JOURNEY	ACHIVEMENT IS MOVEMENT, RUSSIA IS A BLOCK IN THE PATH OF ATOMIC RESEARCH	However, the uncompromising refusal of the soviet union to participate in a workable control system has thus far obstructed progress

Nation Gains New Power In Atomic Weapons, 7/25/48 Washington Post			
Atomic energy	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT COVERED BY A VEIL	A tiny bit of the veil of secrecy that has shrouded recent atomic energy experiments was lifted for the American public yesterday by the Atomic Energy Commission and President Truman
Conflict	LINK	CONTROL IS FREEDOM, LINK SCHEMA	That since a free society places the civil authority above the military power, the control of atomic energy properly belongs to civilian hands
Conflict	CONTAINER	ATOMIC DATA IS A SECRET	But our need for security in an insecure world compel us, at the present time, to maintain a high order of secrecy in many of our atomic undertakings
Atomic energy	MORALITY	ATOMIC ENERGY IS A BUSINESS	Atomic energy is not only the Government business, it is the vital concern of every citizen
TRUMAN DECLARES RUSSIA FORCES U.S. INTO BOMB SECRETS, 7/25/48 The New York Times			
New era	JOURNEY	ACHIVEMENT IS MOVEMENT, RUSSIA IS A BLOCK IN THE PATH OF ATOMIC RESEARCH	President Truman declared today that the United States would hold fast to the atomic bomb and continue its efforts to make it more deadly while Russia persists in obstructing efforts for international control of atomic energy
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	The irradiated materials which promise to save many more lives than have been destroyed by the atomic bombs
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	There should be no letup in the drive to increase our atomic knowledge for defense and peaceful purposes
Atomic energy	MORALITY	ATOMIC ENERGY IS WELL-BEING	[Isotopes] promising the greatest benefits to man
Atomic energy	LINK	POSSESSION IS CONTROL	Thus he dismissed a movement by the armed forces to regain control and custody of the dread weapons
Greater U.S. Atomic Bomb Tests Revealed, 7/25/48 Los Angeles Times			
Atomic energy	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT COVERED BY A VEIL	"We cannot as a nation afford to disclose the secrets which make this new force the most deadly form of military weapon."
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	President Truman today said that he has ordered every effort to keep this country's "leading position" in the atomic field.
New era	JOURNEY	ACHIVEMENT IS MOVEMENT, RUSSIA IS A BLOCK IN THE PATH OF ATOMIC RESEARCH	Russia, he said is the stumbling block to progress toward such control
New era	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Declared that the recent Eitwetok tests of three atomic weapons of new and improved design, "confirms the fact that the position of the United States in the field of atomic weapons has been substantially improved
Conflict	CONTAINER	ATOMIC DATA IS A SECRET	The tests were carried out with great secrecy
Russians Got Atomic Data, Committee Told by Officer, 9/12/48 Washington Post			

Conflict	CONTAINER	RUSSIA IS A BURGLAR	Congressional spy investigators said yesterday that an Army expert on atomic energy is "certain" Russian agents stole some wartime atom bomb secrets
Conflict	CONTAINER	ATOMIC DATA IS A LIQUID	Groves appeared before the committee Friday but merely hinted to reporters afterwards that there might have been some leak of atomic secrets
Conflict	CONTAINER	RUSSIA IS A BURGLAR	Russian efforts to penetrate atomic research safeguards were successful
Conflict	CONTAINER	ATOMIC DATA IS A LIQUID	Some atomic scientists leaked information to the Russians
Conflict	FORCE DYNAMIC	ATOMIC DATA IS A SECRET, THE US-RUSSIA RELATIONSHIP IS WAR	Espionage activities were in progress
HEAR RED SPIES STOLE ATOMIC SECRETS IN WAR, 9/12/48 Chicago Tribune			
Conflict	CONTAINER	ATOMIC DATA IS A SECRET; CONTAINER SCHEMA; RUSSIA IS A BURGLAR	HEAR RED SPIES STOLE ATOMIC SECRETS IN WAR
Conflict	CONTAINER	ATOMIC DATA IS A SECRET; CONTAINER SCHEMA; RUSSIA IS A BURGLAR	Russian efforts to penetrate atomic research safeguards were successful
Conflict	FORCE DYNAMIC	RUSSIA IS A BURGLAR; CONTAINER SCHEMA	Effort to penetrate atomic research
Conflict	CONTAINER	ACHIVEMENT IS PERFOMING A DESIRED ACTION; RUSSIA IS A BURGLAR; CONTAINER SCHEMA	The officer was "deeply concerned over the intense activity of Russian espionage agents in the efforts to penetrate atomic research safeguards both before and during his association with the project"
Report on Atomic Spies Due This Week; Termed 'Shocker', 9/26/48 Washington Post			
Conflict	FORCE DYNAMIC	ATOMIC DATA IS A SECRET, THE US-RUSSIA RELATIONSHIP IS WAR	The official declared that Presidents Roosevelt Blld Truman and Attorney General Tom C. Clark "had all the facts" on a Russian spy ring that got atomic bomb secrets but did nothing about it
Conflict	FORCE DYNAMIC	ATOMIC DATA IS A SECRET, THE US-RUSSIA RELATIONSHIP IS WAR	Soviet agents in a complete professional spy ring
Conflict	FORCE DYNAMIC	ATOMIC DATA IS A SECRET; CONTAINER SCHEMA; RUSSIA IS A BURGLAR	Scientists working with the supersecret Manhattan atomic bomb projects at the University of Chicago made' attempts to steal atom secrets
Conflict	FORCE DYNAMIC	ATOMIC DATA IS A SECRET; CONTAINER METAPHOR; RUSSIA IS A BURGLAR	Atomic espionage inquiry had revealed that some atomic material had been stolen
THE FEARFUL PORTENT OF BIKINI, 11/28/48 The New York Times			
Atomic energy	FORCE	ATOMIC ENERGY IS A FORCE	THE FEARFUL PORTENT OF BIKINI
Atomic energy	PERSONIFICATION	ATOMIC BOMB IS A LIVING BEING	It was like a voice of doom tolling off the world's last minutes

Atomic energy	FORCE	ATOMIC BOMB IS A FORCE	If there is anything the world needs today it is a reawakening of its consciousness to the fact that the atomic bomb is the greatest cataclysmic force ever released on earth that unless all the nations of the world agree to an effective means of international control it must lead inevitably to the destruction of civilization
Atomic energy	MORALITY	ATOMIC BOMB IS ACHIVEMENT	The great epics of modern times
Atomic energy	FORCE DYNAMIC	ATOMIC ENERGY IS A DESTRUCTION	That unless all the nations of the world agree to an effective means of international control it must lead inevitably to the destruction of civilization

1949-1953

GLOBAL TOPIC	**CONCEPTUAL STRUCTURE**	**CONCEPTUAL METAPHOR**	**LINGUISTIC REPRESENTATION**
NEW ATOMIC DEVELOPMENT TO CREATE POWER REVEALED, 7/7/49 Los Angeles Times			
Achievement	CONTAINER	ATOMIC RESEARCH IS A CONTAINER	American scientists are on the threshold of a very great new development which holds promise on atom driven ships and power generating plants
Achievement	FREEDOM	ATOMIC ENERGY IS WELL-BEING	American scientists are on the threshold of a very great new development which holds promise on atom driven ships and power generating plants
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The United States is "way out front" in the world atomic race
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The united states atomic supremacy in a world embroider in a cold war
Achievement	FREEDOM	ATOMIC ENERGY IS WELL-BEING	He then went into detail on a multimillion dollar atomic reactor program now getting under way stating that it holds great promise not only of atomic engines to propel ships and submarines but development of power for peaceful purposes
Achievement	JOURNEY	ATOMIC RESEARCH IS A PATH	He added that recent tests -in the Pacific already have led to improvements, in design and production of the A-bomb and "give us great hope for future development."
Soviet Achievement Ahead Of Predictions by 3 Years, 9/24/49 The New York Times			
Achievement	JOURNEY	RUSSIA ACHIEVING ATOMIC ENERGY IS A NEW ERA	President Truman's announcement that we have evidence of the occurrence of an "'atomic explosion" in the Soviet Union Within recent weeks ranks only next to his original announcement of the explosion of the first atomic bomb over Hiroshima on Aug. 6, 1945. It marks the end of the first period of the atomic age and the beginning of the second.
Achievement	JOURNEY	ATOMIC RESEARCH IS A PATH	While it is likely that Soviet scientists tested the first and only bomb they had, it would be dangerous to assume that they are four years behind us and that it would take them that long to catch up with us. It would be much more reasonable to assume that they have geared their plants to produce at the rate of one bomb a week

Achievement	FORCE	MORE IS UP, POWER IS MORE	These fission-products consist of more than a hundred radioactive elements that go up in the giant mushroom, following the explosion, to a height of some 50,000 to 60,000 feet.
Achievement	JOURNEY	ATOMIC RESEARCH IS A PATH	It has become customary to refer as 1952 as possibly the year when Russia was to reach the stage we were at in the summer of 1945.
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	It would also be dangerous to assume that we have a four-year head start on them, and that therefore they should not be able to catch up with us for at least four years.
***TRUMAN SAYS RUSS HAVE A-BOMB*, 9/24/49 Los Angeles Times**			
Achievement	FREEDOM	ATOMIC RESEARCH IS A BUSINESS	An atomic explosion has occured in Russia, a fateful portent that the Soviets have broken the American A-bomb monopoly on which the Non-Communist world depended so heavily
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The United States has four-year head start in atomic bomb
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	For one thing they pointed out that the United States has four-year a head start in atomic bomb manufacture.
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	If there is no release from the mad armaments race, war is inevitable
Achievement	FREEDOM	ATOMIC RESEARCH IS A BUSINESS	Just a year ago Russian Foreign Minister Vishinski proclaimed in Paris that the United States no longer had a monopoly on the world's deadliest weapon
U.S. Stirred by Disclosure of Atomic Blast in Russia, 9/24/49 Chicago Tribune			
Achievement	FREEDOM	ATOMIC RESEARCH IS A BUSINESS	American monopoly on atomic energy was conceded tonight as lost to soviet Russia
Achievement	JOURNEY	ATOMIC RESEARCH IS A PATH	At the same time it was emphasized that this country is still four years ahead of the soviets in know-how and accomplishment
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	"If there is no release from the mad armament race, war is inevitable,"
Conflict	LINK	CONTROL IS FREEDOM	This recent development emphasizes once again, if indeed such emphasis were needed, the necessity for that truly effective enforceable international control of atomic energy which this government and the large majority of the members of the United Nations support."
Achievement	CONTAINER	ATOMIC RESEARCH IS A SECRET	It would be interesting to know whether any of our atomic secrets have leaked to the Russians
A-Bomb at Their Disposal, Reds Admit Mum on Blast, 9/25/49 Chicago Tribune			
Achievement	CONTAINER	ATOMIC RESEARCH IS A SECRET	"This statement signified that the Soviet union had already discovered the secret of the atomic weapon end that it had at its disposal this weapon,"
Conflict	LINK	CONTROL IS FREEDOM	Fears that the race might lead to war brought revival of demands for international control of atomic weapons and general disarmament

Achievement	FREEDOM	ATOMIC RESEARCH IS A BUSINESS	The disclosure that Russia has broken the American monopoly on atomic bombs also brought congressional demands for increasing the air force and for reviewing of the atomic program
Achievement	CONTAINER	ATOMIC RESEARCH IS A SECRET	The methods and sources of the discovery are deep dark secrets
Conflict	FORCE DYNAMIC	RUSSIAN RADIATION IS MOVEMENT	if the bomb were exploded in Asia, it might be expected that the 'hot cloud' would follow the paths of the balloons released by the Japs during the war and move towards this country
Soviet Union Has 'Atomic Weapon,' Moscow Says as to U. S. Statement, 9/25/49 The New York Times			
Achievement	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	The Moscow radio early today broadcast a statement by T88S, an official Soviet news agency, which said that Russia has had the secret of the atomic bomb since 1947.
Achievement	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	As for the production of atomic energy, Tass considers it necessary to recall that already on Nov. 6 1941, Minister of Foreign Affairs of the U.S.S.R. V. M. Molotov made a statement concerning the secret of the atom bomb, when he declared that this secret was already long ago non-existent
Achievement	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	This statement signified that I the Soviet Union had discovered the secret of the atomic weapon and that it had this weapon
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Scientific circles of the United States took this statement for a bluff
Achievement	CONTAINER	ATOMIC DATA IS A SECRET OBJECT	The Soviet Union possessed the secret in 1947
Russ Bomb Threat to Life of West, 9/25/49 Los Angeles Times			
Conflict	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE PEOPLE	It is equally correct to say that the eyes of the free peoples of this planet are anxiously turned to America, to see how this country will react
Conflict	CONTAINER	WESTERN CIVILIZATION IS A BUILDING	Russia atomically armed and in it position to expand, her, domain further In Europe and Asia, the whole edifice of 25 centuries of, liberal philosophy and way of life will be seriously endangered
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	The attitude of the western world had its, leaders neglected to take the fullest advantage of the present psychological moment, In order to prepare rapidly their defenses in case of emergency
Conflict	JOURNEY	PEACE IS A DESTINATION	To accept as permanent the present demarcation line of the Iron Curtain, from Stettin to Trieste; It not furnishing now and will not he furnishing In the future a solid pattern of world peace freely and openly arrived at by those most concerned In It

Achievement	FORCE	ATOMIC ENERGY IS A FORCE	Only common sense and courageous intelligent political leaders as the only way to control these new forces that science has placed in man's hands for whatever future the fates might have in store for him
Number of Bombs Crucial Point, 9/25/49 Washington Post			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Establish unquestioned and unmistakable leadership in the atomic armaments race between the East and West
Achievement		METONYM: East is The US and West is Russia	Establish unquestioned and unmistakable leadership in the atomic armaments race between the East and West
Conflict	CONTAINER	MILITARY STATEGIES ARE BUILDING	We should let nothing stand in the way of arming this country atomically in such a way as to erect a great deterrent
Conflict	CONTAINER	MILITARY STATEGIES ARE BUILDING	Russian's atomic progress would force any great revamping of the US program
Achievement	JOURNEY	ACTIONS ARE MOVEMENTS	The Atomic Energy Commission planned to speed up preparations of an atomic bomb effects handbook designed to aid civilians defence planners
Conflict	CONTAINER	MILITARY STATEGIES ARE BUILDING	Defense officials called for quick congressional action on measures to build up the country's Alaskan bastion and to start erection of a north American radar network to warn of hostile airplanes
THE EFFECTS OF RUSSIA'S BOMB ON OUR MILITARY STRATEGY, 9/25/49 the New York Times			
Achievement	CONTAINER	THE ATOMIC AGE IS A CONTAINER	A new and dangerous chapter in the atomic age opened this week and the arms-aid program and Atlantic pact defense measures took on an urgent meaning as President Truman announced that henceforth we would be living in two atomic worlds
Conflict	CONTAINER	THE US AND RUSSIA ARE SEPARATE WORLD	A new and dangerous chapter in the atomic age opened this week and the arms-aid program and Atlantic pact defense measures took on an urgent meaning as President Truman announced that henceforth we would be living in two atomic worlds
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	In other words, we still have a definite lead in the atomic arms race, and the chances are that we shall retain that lead, quantitatively and probably, qualitatively, for years to come, if not indefinitely
Achievement	JOURNEY	ATOMIC ERA IS A JOURNEY	As a fundamental first step in the new chapter now opening, there must obviously come-not only and not chiefly because of the President's announcement, but primarily as a result of the Atlantic Pact and the anns-aid program-a fundamental change in some of our past strategic concepts.
Conflict	FORCE DYNAMIC	RUSSIA IS A FORCE THAT MUST BE CONTAINED	The problems of containing the Soviet Army
REDS STOLE A-BOMB, HICKENLOOPER SAYS, 9/27/49 Los Angeles Times			

Achievement	CONTAINER	ATOMIC DATA IS A SECRET OBJECT, RUSSIA IS A BURGLAR	"Loose security practices" by the Atomic Energy Commission enabled Russia to steal A-bomb secrets and produce an atomic explosion far ahead of schedule
Conflict	LINK	CONTROL IS FREEDOM	The world now simply must find a system of interactional control of the atom
Conflict	FORCE DYNAMIC	RUSSIA ACHIEVING ATOMIC DATA IS ESPIONAGE	This policy, he added, provided perfect opportunity for infiltration (of the atomic program) either by espionage agents or the employment of some people who are susceptible to the very clever influence of espionage agents
Achievement	CONTAINER	ATOMIC DATA IS A LOCKED SECRET	Britain and Canada would probably cooperate more now that the Soviets have unlocked the secrets of the atom
Achievement	FREEDOM	ACHIEVEMENT IS MOVING TOWARD A GOAL	I have no doubt that they have helped step up-Russia's timetable for the production of an atomic explosive by a very substantial period of time
SOVIET MAY TAKE ATOMIC LEAD SOON, 10/22/49 Los Angeles Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	One of America's top atomic scientists declared today that Russia probably will wipe out this country's lead in the atomic bomb race in two years
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Re said home production has faltered in the United States since the war, while Russia is operating at a pace comparable to America's best wartime speed
Achievement	COMPETITION	ACHIEVEMENT IS MOVEMENT	Dr. Frederick Seitz, professor of physics at the University of Illinois, said .he believes there is a strong possibility that the Russians will now surpass us in bomb production and in other phase of the development of atomic energy
Achievement	FREEDOM	ACHIEVEMENT IS OBTAINING A DESIRED OBJECT	"It's far better than we focus attention on the acquisition of new knowledge and new techniques and run the small danger that some of this information will be obtained by the Russians before they discover it themselves."
H-BOMB 'GO AHEAD' GIVEN, 2/1/50 Los Angeles Times			
H-bomb	FREEDOM	ACHIEVING H-BOMB IS A JOURNEY	H-BOMB 'GO AHEAD' GIVEN
H-bomb	FORCE	POWER IS MORE	President Truman today gave the fateful order for development of the hydrogen super-bomb so that the United States may defend itself "against any possible aggressor"
H-bomb	FORCE	POWER IS MORE	Mr. Truman indicated that the nation's atomic scientists may already have started tackling the problem of creating a weapon far surpassing the destructive fury of the A-bomb
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Mr. Mahon declared there should be "a nationwide discussion" not on the merits of building the H-bomb itself but on the armament races and how they can be halted in the interest of the peace of the world

Achievement	JOURNEY	HISTORY IS A JOURNEY, H-BOMB MAY ALTER THE COURSE OF THE JOURNEY	For Mr. Truman, It was the second time he has made a decision of unparalleled gravity that could affect the whole course of world history
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	Unofficial conjecture has suggested that an A-bomb, built inside the H-bomb, would be used to trigger. The new weapon setting off explosive forces like those on the sun
Russia's Success With Atom Blast Seen Prompting Final Decision, 2/1/50 Washington Post			
H-bomb	CONTAINER	H-BOMB IS DESTRUCTION	Announcement of the President's instruction to the Atomic Energy Commission ends the first. And doubtless the simplest. phase of the argument about the world's most gigantic destructive device
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	It is part of my responsibility as Commander-in-Chief of the Armed Forces to see to it that our country is able to defend itself against any possible aggressor
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	A chance to take the leadership in a movement to halt the mad race of modern science
Achievement	COMPETITION	ACHIEVEMENT IS MOVEMENT	He said he felt the "ulmostspeed" was necessary in making the weapon
H-bomb	FORCE	POWER IS MORE	Its power has been estimated as anywhere from 10 to 1000 times that of an A-bomb
ACT TO THWART ATTACKS; TRUMAN ORDERS H-BOMB, 2/1/50 Chicago Tribune			
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT, CONTAINER + FORCE DYNAMIC SCHEMA	ACT TO THWART ATTACKS; TRUMAN ORDERS H-BOMB
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT, CONTAINER + FORCE DYNAMIC SCHEMA	To see to it that our country is able to defend itself against any possible aggressor
H-bomb	FORCE	POWER IS MORE	to produce' the hydrogen bomb which some sources estimate would be 1,000 times more powerful than the first A-bomb
Achievement	COMPETITION	ACHIEVEMENT IS MOVEMENT	He said he feels the utmost speed is necessary on the project
Conflict	FREEDOM	ACHIEVEMENT IS MOVEMENT	Like any other work in the field of atomic weapons, it Is being and will be carried forward on a basis consistent with the over-all objectives of our program for peace and security
IT'S A TRITON BOMB, MIGHTIEST POSSIBLE, 2/1/50 The New York Times			
H-bomb	FORCE	POWER IS MORE	IT'S A TRITON BOMB, MIGHTIEST POSSIBLE
H-bomb	FORCE	POWER IS MORE	This, the most powerful superbomb that can be built on earth, it can now be revealed, actually is the triton bomb, in which the basic element used is tritium, a hydrogen isotope (twin) of atomic mass 3.
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	The vast amounts of energy released by the Sun
H-bomb	FORCE	POWER IS MORE	It has 1,000 times the explosive power of the atomic bomb

H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	The triton proton combination is the last step in a six step process responsible for the almost inexhaustible energy of the sun
H-bomb	FORCE	POWER IS MORE	The most powerful nuclear reaction possible in nature, and it takes place in the sun at the rate of four pound per second
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	The most powerful nuclear reaction possible in nature, and it takes place in the sun at the rate of four pound per second
SOVIET GAIN ON U.S. IN BOMB RACE SEEN, 2/4/50 The New York Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	SOVIET GAIN ON U.S. IN BOMB RACE SEEN
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The speed with which the Russians developed the atomic bomb probably is at least five times greater
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	"Their rate of development in the field," he told the distinguished gathering. which included scores of the country's top-flight physicists and many of the leaders in atomic bomb development. "Seems to be sufficiently greater than ours at the present time, that there is grave danger that they will pass us within the next decade. This is probably true in other fields
Achievement	FREEDOM	ACHIEVEMENT IS MOVEMENT	"Their rate of development in the field," he told the distinguished gathering. which included scores of the country's top-flight physicists and many of the leaders in atomic bomb development. "Seems to be sufficiently greater than ours at the present time, that there is grave danger that they will pass us within the next decade. This is probably true in other fields
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	"The public has been given far too optimistic a picture of our own superiority relative to Russia."
H-Bomb Death Range Set at More Than 1500 Miles, 2/20/50 Los Angeles Times			
Conflict	FORCE DYNAMIC	MOVEMENT SCHEMA	Atomic Scientist Says Radioactivity would be Carried by Winds Over Tremendous Area
Conflict	THREAT	RADIATION IS DEATH	Radioactivity produced by the blast would be carrying eastward by the wind, destroying all life in the area
Conflict	THREAT	RADIATION IS CONTAMINATION	The radioactive dust would reach California in about a day
Conflict	THREAT	RADIATION IS DEATH	The destruction due to radioactivity could far exceed that due to the blast
Conflict	THREAT	RADIATION IS CONTAMINATION	Some human beings might survive if shield or wearing gas masks to filter radioactive dust
Atom Effects: We Are Not Helpless in Attack, 8/14/50 The New York Times			
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	A frightened world has been led to believe by some of the more articulate atomic scientists that 'there is no defense against the atomic bomb'

Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	A well-organized civilian defense against a possible atomic attack, added to an efficient, military defense, is the best possible deterrent against such an attack
H-bomb	CONTAINER	ATOMIC INFORMATION IS AN OBJECT	It possibly is more important, in fact, than the hasty publication a few days after Hiroshima of the Smyth Report, which many today believe was a serious mistake that gave Russia much valuable information
H-bomb	CONTAINER	ATOMIC RESEARCH IS A SECRET	The actual amount is a top secret, but, for purposes of illustration, let us assume that it is ten kilograms
Conflict	THREAT	RADIATION IS CONTAMINATION	This means that a certain percentage of the atoms remain unlit after the explosion, going off as part of the great cloud of radioactive vapor that characterized the explosion.
INSIDE ATOM...mankind's ruin or brave new world, 1/14/51 Chicago Tribune			
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	Little or no progress has been made toward development of a defense against this deadly missile
Conflict	THREAT	H-BOMB IS DESTRUCTION	Destruction greater than this can hardly be comprehended
Conflict	THREAT	H-BOMB IS A POISON/DISEASE THAT IS SPREADING	There is no antidote now, and the men who are most familiar with the bomb and its ramifications are doubtful that there ever will be
Achievement	FORCE	ATOMIC ENERGY IS A FORCE THAT CAN BE TURNED	However, mankind also is turning the incalculable might of the atom to peaceful and constructive activities
Achievement	CONTAINER	ATOMIC ENERGY IS DESTRUCTION	INSIDE ATOM...mankind's ruin or brave new world
3d Atom Test Lights Nevada Dawn; Peaks Stand Out in Weird Glare, 2/2/51 The New York Times			
H-bomb	MYTH	H-BOMB IS LIGHT	3d Atom Test Lights Nevada Dawn; Peaks Stand Out in Weird Glare
Conflict	THREAT	H-BOMB IS A HOLOCAUST	I watched the split-second man-made holocaust from the closest permitted vantage point.
H-bomb	MYTH	H-BOMB IS LIGHT	Then suddenly the surrounding mountains and sky were brilliantly illuminated for a fraction of a second by a strange light that seemed almost mystical
H-bomb	MYTH	H-BOMB IS LIGHT	It was a gray-green light of infinite coldness apparently completely devoid of any red tones
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	In this momentary glare, the mountains looked in the silenced like the weird and lifeless peaks of a dead planet
H-bomb	FORCE	H-BOMB IS A NATURAL FORCE	Then the explosion began reverberating first in many directions among the nearby mountains, then in the distance. Booming like thunders
ATOMIC SHELLS? 7/15/51 Chicago Tribune			

H-bomb	CONTAINER	ATOMIC RESEARCH IS A SECRET	HE explosion depicted in the photograph reproduced in the cover of this magazine is, without much doubt, the first close-up of the new, much hinted at, but still officially secret, atomic artillery shell in action.
H-bomb	CONTAINER	ATOMIC RESEARCH IS A SECRET	These were the "mystery tests" which shook, during the period of half a dozen firings by day and by night, cities in Nevada, California, and New Mexico
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	In the heart of this blast is the white heat, and raw disintegration of matter that produces for micro-seconds (millionths of a second) an equivalent of the 50,000,000 degree Fahrenheit heat of the sun itself
H-bomb	FORCE	UP IS MORE, POWER IS MORE	It was such a column that lifted mushrooms from other fission bursts to 30,000 foot levels over the ocean and over the desert near Los Alamos where the original atomic bomb was exploded in 1945
Conflict	THREAT	H-BOMB IS CONTAMINATION	The center column beneath the main center of the explosion, extending from the earth to the height of the detonation. Probably is the result of the so-called base surge of dust and debris that is rising in the upward sweep of the enormous heat
SOVIET'S SECOND ATOM BLAST IN 2 YEARS REVEALED BY U. S. 10/4/51 The New York Times			
Achievement	CONTAINER	ATOMIC RESEARCH IS A SECRET	The Russians had salved the secret of controlling the explosion of the atom and thus had landed the monopoly enjoyed by the United States in the field of atomic warfare.
Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	The Russians had salved the secret of controlling the explosion of the atom and thus had ended the monopoly enjoyed by the United States in the field of atomic warfare.
Conflict	THREAT	RADIATION IS CONTAMINATION	It is known, of course, that each atomic blast sends clouds of radioactivity through the atmosphere and these can be detected with sensitive instruments hundreds and thousands of miles from the scene of the explosion
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	But, at the same time, the news that the Russians are making progress in the atomic weapon race also may have a dampening effect upon the enthusiasm of some Western Europeans about collaborating with the Western powers in rearming Germany and creating a European army
Achievement	THREAT	RUSSIA IS CONTAMINATION	But, at the same time, the news that the Russians are making progress in the atomic weapon race also may have a dampening effect upon the enthusiasm of some Western Europeans about collaborating with the Western powers in rearming Germany and creating a European army
Second Atom Bomb Set Off by Russians, 10/4/51 Los Angeles Times			

Conflict	LINK	POSSESSION IS CONTROL	And the' President himself, through short, stressed anew the urgency of bringing all atomic energy development under workable international control along the lines proposed by the U.S. and most other members of the United Nations
Achievement	CONTAINER	ACHIEVEMENT IS MOVEMENT	This development underscores the importance of civil defence. It likewise underscores the need for immediately expanding our own atomic efforts
Achievement	COMPETITION	ACHIEVEMENT IS MOVEMENT	We retain a commanding atomic advantage over the Soviets. We must retain and extend that advantage
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	This country still holds a long lead over Russia in the atomic race
Conflict	CONTAINER	STATES ARE BUILDINGS	The interval between the first and the second test was said to have been long enough to allow agents to seep through the curtain and to western capitals
TRUMAN TELLS OF NEW SOVIET A-BOMB BLAST, 10/4/51 Chicago Tribune			
Conflict	LINK	ATOMIC ENERGY IS A FORCE THAT MUST BE CONTROLLED	The President has directed me to make this statement and to stress again the necessity for that effective and enforceable international control of atomic energy which the United States and the large majority of the members of the United Nations support
Conflict	CONTAINER	ATOMIC RESEARCH IS A SECRET, POSSESSION IS POWER	It is nothing to be aroused about, except we should keep in mind that they do have the atomic secrets
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	Today's announcement came as this country's atomic experts went ahead with plans for new series of atomic 'test explosions"
Achievement	LINK	ATOMIC SECRET IS AN OBJECT THAT MUST BE CONTROLLED	Apparently, Van Zandt said, the committee was a victim of Mr. Truman's new secrecy order aimed at keeping security data from being released
STALIN WARNS ON A-BOMB, 10/6/51 Los Angeles Times			
Achievement	FREEDOM	ACHIEVENT IS BUILDING	Stalin also was quoted as having said that although Russia wants atomic bombs prohibited, the United States "will use the atom bombs" in "the efforts of a United States attack on our country," He added that that is why Russia is building tip its atomic defense
Conflict	LINK	POSSESSION IS CONTROL	The soviet union stands precisely for this international control
Conflict	CONTAINER	THE US AND BRITAIN ARE A BUILDING	Defense of our country from attacks from the British-American aggressive block
Conflict	LINK	POSSESSION IS CONTROL	The US. Majority plan, which Russia has opposed since it was introduced in the U.N. four years ago, calls for control of all atomic products bombs and peacetime energy by an international commission
Conflict	LINK	POSSESSION IS CONTROL	Creation of an international commission to control the development of atomic energy would give "capitalist imperialism" a hold in Russia

Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	It is practically certain that we could not remain in this position [of A-bomb monopoly] indefinitely.
Atom Race Quickens, 10/7/51 The New York Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	Atom Race Quickens
Conflict	THREAT	RADIATION IS CONTAMINATION	The prevailing winds indicate the general direction the radioactive cloud always a product of A-bomb explosions-came from
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The United States, of course, had a big head start in the work of the scientists
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The U. S. still has a big margin in the atom weapons race.
Crisis in the Atomic Series, 10/7/51 Los Angeles Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The race between the east and west-or, to put the thing in its proper limits, between the United States and Soviet Russia–for clear atomic supremacy
Achievement		METONYM: East is The US and West is Russia	The race between the east and west-or, to put the thing in its proper limits, between the United States and Soviet Russia–for clear atomic supremacy
H-bomb	FREEDOM	ACHIEVEMENT IS OBTAINING A DESIRED OBJECT	On the heels of this President Truman has come through with the statement that we now are in possession of "fantastic" new weapons which could doom civilization
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	It appears that in this, macabre world series we are well ahead on points (though in some doubt about our opponent's true score) and have in fact reached a stage in the game where a major decision on tactics must be made.
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The decision, it appears, must be made soon, for the pace of the contest has increased tremendously
New Era of Atom Weapons Opens With Blast in Nevada Tomorrow, 4/21/52 The New York Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The atomic arms race, as Las Vegas well knows, is gathering pace.
Achievement	JOURNEY	ATOMIC RESEARCH IS A PATH	The detonation will be another milestone in the atomic history of the world.
H-bomb	MYTH	ATOMIC SCIENTISTS ARE CREATORS	Terrific culmination in the fall when by far the greatest explosion ever made by man is slated for the Eniwetok proving ground in the Pacific
Achievement	JOURNEY	ACHIVEMENT IS REACHING A DESIRED DESTINATION	Terrific culmination in the fall when by far the greatest explosion ever made by man is slated for the Eniwetok proving ground in the Pacific
H-bomb	FORCE	H-BOMB IS A FORCE	This "super-bomb" is expected to "yield" 300 to 500 kilotons, or 300,000 to 500,000 tons of explosive force, as compared to the relatively puny 20,000 ton "Model T" bomb that destroyed Hiroshima.

5TH ATOM BOMB SHOT IN DARK ON 300 FT. TOWER, 5/8/52 Chicago Tribune			
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	The explosion was like a supersonic-speed sunrise, with an initial, point of illumination burgeoning instantaneously into a great fiery ball which spread its light, under a heavy cloud overcast, for hundreds of miles
H-bomb	MYTH	H-BOMB IS LIGHT, LIGHT IS POWER, CONTAINER SCHEMA	The explosion was like a supersonic-speed sunrise, with an initial, point of illumination burgeoning instantaneously into a great fiery ball which spread its light, under a heavy cloud overcast, for hundreds of miles
H-bomb	THREAT	H-BOMB IS CONTAMINATION	The explosion was like a supersonic-speed sunrise, with an initial, point of illumination burgeoning instantaneously into a great fiery ball which spread its light, under a heavy cloud overcast, for hundreds of miles
H-bomb	MYTH	H-BOMB IS LIGHT	Light develop dramatically with shades of white, yellow and red for five to 10 seconds
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	In the same way the sun's composition and behavior have been analyzed
NEW ATOM SECRETS DISCOVERED BY U.S. 6/28/52 Los Angeles Times			
Achievement	CONTAINER	ATOMIC RESEARCH IS A SECRET	One of the nation's top atomic scientists hinted today at mysterious new developments in the field of atomic energy-so important they were laid directly before President Truman
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	The advisory group of scientific experts recently sent Mr. Truman a 'progress report' setting forth developments in the multi-billion-dollar program to built more, new a better atomic weapons.
H-bomb	CONTAINER	H-BOMB IS A NEW ERA	We are crossing the threshold into the hydrogen era–the age of H-Bombs
H-bomb	FREEDOM	H-BOMB IS AN ADVENTURE	Dr. Oppenheimer's guarded comment on great developments immediately touched off speculation that the quest for a formula to produce the so-called hydrogen 'hell bomb' may have been crowned with success
H-bomb	THREAT	H-BOMB IS HELL	Dr. Oppenheimer's guarded comment on great developments immediately touched off speculation that the quest for a formula to produce the so-called hydrogen 'hell bomb' may have been crowned with success
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	To grant the AEC authority to go ahead with the expansion projects
NEW ATOM BOMB TESTS PLANNED AT ENIWETOK, 9/10/52 Chicago Tribune			

Achievement	FREEDOM	ACHIEVEMENT IS MOVEMENT	The atomic energy commission and the defense department today announced that new tests looking toward the development of atomic weapons will be held this fall at the AEC's remote Pacific ocean proving grounds on Eniwetok atoll in the Marshall islands
H-bomb	FORCE	POWER IS MORE	The brief, single paragraph announcement said only that the latest series of tests will involve atomic weapons and gave no hint as to whether they will include the projected hydrogen super-bomb which, when perfected, reputedly will be 1,000 times more powerful than the atomic bomb
H-bomb	CONTAINER	ATOMIC RESEARCH IS A SECRET BUILDING	The heavy secrecy surrounding the forthcoming Eniwetok tests gave rise. However, to reports that at least a preliminary form of the hydrogen bomb will be set off
H-bomb	LINK	ATOMIC RESEARCH IS AN OBJECT THAT MUST BE SECURED	The tests" will be conducted under fully security provisions of the atomic energy act"
H-bomb	FORCE	POWER IS MORE	Observers speculated today that the use of Eniwetok means the AEC will set off more powerful blasts and wants to surround the tests with even more secrecy than was possible in Nevada.
H-Bomb Test Explosion in Pacific Hinted, 11/7/52 Los Angeles Times			
H-bomb	CONTAINER	ATOMIC RESEARCH IS A SECRET	The United Slates may be keeping secret an explosion or the world's first full-scale hydrogen bomb
H-bomb	FORCE	POWER IS MORE	Such a blast, would be many times more powerful than a nuclear fission bomb
H-bomb	LINK	ATOMIC RESEARCH IS AN OBJECT THAT MUST BE SECURED	Conducted under full security provision
H-bomb	LINK	ATOMIC RESEARCH IS AN OBJECT THAT MUST BE SECURED	A full-scale test of a hydrogen weapon obviously might he the reason for the high degree of security imposed on the fall series.
H-bomb	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	The AEC said I they were to be conducted under full security provision of the Atomic Energy Act
First H-Bomb Blast' Described in Letter, 11/9/52 Washington Post			
H-bomb	FORCE	POWER IS MORE	The first eyewitness account of a hydrogen bomb explosion at Eniwetok carried today by the Los Angeles Examiner says the H-bomb makes the A-bomb look like a 'runt'

H-bomb	FORCE	H-BOMB IS A FORCE	It is likely, Clausen wrote, that the tremendous unparalleled force of the H-bomb–the world first–vaporized into gas and dust the atoll, a half mile wide and three miles long, on which the detonation took place
H-bomb	MYTH	H-BOMB IS LIGHT	The blast, the letter said, was viewed through dark glasses and appeared a huge orange ball, which grew larger and brighter"
H-bomb	MYTH	H-BOMB IS FIRE	The ball of fire started to rise and slowly lose its identity.
H-bomb	FORCE	UP IS MORE	The column went up and up and finally mushroomed. About three minutes later the report, like a nearby cannon shot, hit us and was followed by several seconds of dull rumbling
H-bomb	FORCE	H-BOMB IS A FORCE	All we could do was stand there and gasp in amazement and awe at the enormous size and force released before us
IT WAS AN H-BOMB BLAST, SAILOR SAYS, 11/12/52 Los Angeles Times			
H-bomb	FORCE	H-BOMB IS LIGHT	Orange, red clouds shot about halfway up the mushroom. It blew the top of a building 18 miles away.
H-bomb	MYTH	H-BOMB IS A FANTASY	I'm all nerves this morning. The H-bomb was set all and I've never seen anything so unbelievable
Conflict	THREAT	H-BOMB IS DESTRUCTION	It was beautiful, but when you think of the damage it can do, it's ugly
H-bomb	MYTH	ATOMIC SCIENTISTS ARE CREATORS	Officials of the Atomic Energy Commission persisted in tightlipped silence today in the face of reports that the first American-made hydrogen 'hell' bomb has been exploded in the South Pacific
H-bomb	MYTH	H-BOMB IS AN OBJECT FROM HELL	Officials of the Atomic Energy Commission persisted in tightlipped silence today in the face of reports that the first American-made hydrogen 'hell' bomb has been exploded in the South Pacific
H-BOMB TEST BARED BY U.S. 11/17/52 Chicago Tribune			
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	The hydrogen bomb is potentially many times more powerful than an atomic bomb and work toward it has been under way for nearly three years
Conflict	FREEDOM	ACHIEVEMENT IS MOVEMENT	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world
Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world

H-bomb	MYTH	H-BOMB IS FIRE	A flame about 2 miles wide was shooting 5 miles into the air this lasted for about 7.2 seconds. Then we saw thousands of tons of earth being thrown straight into the sky. Then a cloud began to form about 20 seconds after the shot
H-bomb	MYTH	H-BOMB IS FIRE	About 15 minutes after shot time the island on which the bomb had been set off from started to burn and it turned a brilliant red. It burned for about six hours.
H-bomb	FORCE	H-BOMB IS A COSMIC FORCE	The process is said to create a heat equal perhaps to that of the sun, and results in far greater release of energy than in the fission process
DEAN BARES TESTS, 11/17/52 The New York Times			
H-bomb	FORCE	POWER IS MORE	Atomic Energy Commission announced tonight "satisfactory" experiments in hydrogen weapon research amid informed speculation that this meant a super-atom bomb had been exploded in recent United States tests
H-bomb	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE PEOPLE	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world
H-bomb	FREEDOM	ACHIEVEMENT IS MOVEMENT	It was designed to further the development of various types of weapons
Conflict	LINK	ATOMIC ENERGY IS A FORCE THAT MUST BE CONTROLLED	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world
H-bomb	MYTH	H-BOMB IS AN OBJECT FROM HELL	The writers. Including junior officers and crew members of ships near the scene, told of a weapon that seemed to be, indeed, a "hell bomb" and one writer reported seeing a mile-wide, island disappearing
Satisfactory 'Research' At Eniwetok Is Revealed, 11/17/52 Washington Post			
H-bomb	FORCE	H-BOMB IS A FORCE	The hydrogen bomb gains its tremendous destructive force through fusion rather than fission
H-bomb	FORCE	H-BOMB IS A FORCE	A study of the letters indicated that the writers were describing something of far greater fury and power than previous known atomic explosions

H-bomb	MYTH	H-BOMB IS AN OBJECT FROM HELL	If the letter writers actually saw what they described, the weapon obviously lived up to its unofficial billing of a 'hell bomb'
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world
Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	In the presence at threats to the peace of the world and in the absence of effective and enforceable arrangements for the control of armaments, the United States government must continue its studies looking toward the development of these vast energies for the defense of the free world
Blast Shows Hydrogen Progress: NEW BLAST SHOWS ATOMIC PROGRESS, 11/18/52 The New York Times			
Achievement	FREEDOM	ACHIEVEMENT IS MOVEMENT	Blast Shows Hydrogen Progress: NEW BLAST SHOWS ATOMIC PROGRESS
H-bomb	JOURNEY	H-BOMB IS A DESTINATION WITHIN THE ATOMIC JOURNEY	The first hydrogen bomb, in actuality, it is still very far from such a weapon
H-bomb	FREEDOM	H-BOMB IS AN EXPERIMENT	The "test tube" hydrogen bomb may be compared to the first chain reaction at the University of Chicago
H-bomb	FREEDOM	PRODUCING H-BOMB IS A HARD PROCESS	The process is analogous to the lighting of a cigarette in a high wind when one has only one match.
H-bomb	FORCE	POWER IS MORE	we have developed fission bombs in the range of 120,000 to 150.000 tons of TNT
NOW THE H-BOMB: TEN QUESTIONS RAISED BY THE ENIWETOK TEST, 11/23/52 The New York Times			
H-bomb	FORCE	POWER IS MORE	There is no limit to the size of an H-bomb
Achievement	FREEDOM	ACHIEVEMENT IS OBTAINING A DESIRED OBJECT	Since Soviet Russia already has the A-bomb it follows that she is bound to develop an H-Bomb
H-bomb	FORCE	POWER IS MORE	Nothing was therefore done until Soviet Russia exploded her firs A-bomb on Sept. 23, 1949. Senator Johnson indiscreetly talked publicly of a "superbomb" and indicated clearly enough to soviet Russia and the rest of the world that the H-bomb, -the only possible "superbomb' was not a dead issue […] to continue its work on all forms of nuclear weapons including the so-called hydrogen bomb or superbomb

Conflict	THREAT	H-BOMB IS DESTRUCTION	For this reason some scientists think that Russian H-bombs are likely to do I more damage to Us than their United States counterparts to Russia. The late Senator Brien McMahon estimated that the 50,000.000 Americans who live in large cities might easily be killed by a few Soviet H-bombs
Atomic Age Is 10 Years Old Tuesday, 11/30/52 Washington Post			
Achievement	MYTH	ATOMIC SCIENTISTS ARE CREATORS	December 2, 1942, saw man's creation of the first self sustained nuclear chain reaction, proof that an atomic bomb could be built and atomic power could be controlled.
H-bomb	PERSONIFICATION	H-BOMB IS A LIVING BEING	The A-bomb has grown to H-bomb size, and peaceful atomic power is still a puny infant
Achievement	JOURNEY	ATOMIC ENERGY IS A NEW ERA	A new era of science was born that cold day when Fermi quietly announced: "The reaction is self-sustaining; the curve is exponential."
Achievement	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	The most logical step, industrial leaders say, is to let the big private companies go to work to make atomic energy a peaceful servant
Achievement	JOURNEY	ATOMIC ENERGY IS A NEW ERA	Perhaps Tuesday's ceremonies will usher in a new era of atomic energy, an era in which the emphasis will be more and more on nuclear fission as a servant of the people
FIRST ATOMIC FIRE IGNITED DECADE AGO, 12/1/52 The New York Times			
Achievement	MYTH	ATOMIC ENERGY IS FIRE, PROMETHEAN MYTH	The event will be commemorated at the 'birthplace" on the squash court underneath the west stands of stag Field, on the University of Chicago campus, where, amid the greatest wartime secrecy, the first atomic fire on earth was lighted on the afternoon of Dec. 2, 1942
Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	Within two and a half years that atomic 'midget" had grown big enough to obliterate Hiroshima and Nagasaki, Ironically, it brought the greatest war in history to a victorious end for both the free world of democracy and the slave world of communism.
Achievement	MYTH	ATOMIC ENERGY IS FIRE	The atomic fire lighted in Chicago ten years ago tomorrow came from the splitting of a variant (isotope) of uranium, the last (ninety-second) and heaviest of nature's building blocks
Achievement	MYTH	ATOMIC ENERGY IS FIRE	The first atomic fire was started at 3: 25 Central standard time when Professor Fermi ordered his assistant, George Weil, to pull out "another foot" the control rod that kept the neutrons In check. "The first atomic fire on earth had been lighted and put out after twenty-eight minutes."
NEW ERA OF SUPER ATOM POWER SEEN, 1/29/53 The New York Times			

Achievement	CONTAINER	ATOMIC RESEARCH IS A CONTAINER	The U.S. atomic project, now 10 years old, is plunging into a new era of super weapons and super power
Achievement	FORCE	POWER IS MORE	The U.S. atomic project, now 10 years old, is plunging into a new era of super weapons and super power
Achievement	JOURNEY	ATOMIC ENERGY IS A NEW ERA	Mr. Truman proclaimed a new era of destructive power
Achievement	FORCE	POWER IS MORE	Production of atomic raw materials is mushrooming
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	The current 1,000,000,000 expansion program, greatest in the project's history, will give the nation
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	Plans are being made for construction of a 100,000.000,000 in volt atom smasher to speed research into "new ways of releasing nuclear energy."
What Kind of Defense in the Atomic Age? 5/17/53 The New York Times			
H-bomb	PERSONIFICATION	H-BOMB IS A LIVING BEING	"Last fall, in mid-Pacific an island disappeared in the most tremendous man-made explosion in history, and the so-called hydrogen bomb was born"
H-bomb	MYTH	ATOMIC SCIENTISTS ARE CREATORS	"Last fall, in mid-Pacific an island disappeared in the most tremendous man-made explosion in history, and the so-called hydrogen bomb was born"
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	"If our vulnerability to atomic attack is permitted to remain high, says Dr. Berkner, "we shall find ourselves in a critical dilemma when the Soviet acquires a striking force, because We face the ultimate alternatives of capitulation or destruction
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	A number of what Dr. Berkner calls "technological breakthroughs" which promise to stiffen the defensive—particularly the defensive against subsonic bombers-are now in sight.
Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	But today, we no longer enjoy an atomic monopoly
Soviet Union Now Has H-Bomb, Malenkov Boasts in Policy Talk, 8/9/53 Los Angeles Times			
Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	Premier Malenkov said today "the United States no longer has the monopoly of the hydrogen bomb" and the Soviet Union has mastered production of that super weapon
Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	The United States has no monopoly in the production of the hydrogen bomb either
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	Russia is prepared to give "a crushing blow to any aggressor who wants to violate the peaceful life of the Soviet Socialist Republics.
Achievement	FREEDOM	ACHIEVEMENT IS MOVEMENT	It was decided to press forward with this development for ourselves

Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT, MALENKOV IS THE FIGHTER	Malenkov attacked the North Atlantic bloc as the main danger to world peace
REVEAL RUSS H-BOMB TEST: U. S. CONFIRMS BLAST SET OFF A WEEK, 8/20/53 Chicago Tribune			
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	Pravda Tells of Its Great Strength
Achievement	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	The soviet union conducted an atomic test on the morning of Aug. 12
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	It will be recalled that more than three years ago the United States decided to accelerate work on all forms of atomic weapons.
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	Recently in the Soviet Union, the explosion of a type of hydrogen bomb was carried out with experimental aim
Achievement	FREEDOM	POSSESSION IS POWER	As a result of the possession of the mighty power of thermonuclear fission in the hydrogen bomb, the explosion was of great strength
MOSCOW'S H-BOMB, 8/21/53 The New York Times			
Achievement	FREEDOM	ATOMIC ENERGY IS A BUSINESS	The Atomic Energy Commission has removed most, if not all the doubts voiced by many when Premier Malenkov first claimed that this country's monopoly in the production of this weapon had been broken
Conflict	LINK	CONTROL IS SECURING	In the light of this latest news, the most urgent of these problems is that of securing an international control which will prevent a nuclear Armageddon being unleashed upon the world
Conflict	THREAT	USING ATOMIC BOMBS IS DEATH	In the light of this latest news, the most urgent of these problems is that of securing an international control which will prevent a nuclear Armageddon being unleashed upon the world
Conflict	CONTAINER	ATOMIC RESEARCH IS A CONTAINER	The latest Soviet feat makes clear that much, though not all, of the secrecy with which we have attempted to surround our work on nuclear, weapons has been in vain
Conflict	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	At present, that secrecy prevents the American, people from understanding the problems involved and from reaching conclusions on the steps necessary for rational solution
U.S. LEADS H-BOMB RACE, SAY AGENTS, 8/22/53 Los Angeles Times			
Achievement	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The Senate House Atomic Energy Committee asserted today, after a secret briefing by Central intelligence agents, that the United States is well ahead of Russia in both hydrogen and atomic bomb developments

Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	The committee statement came as Civil Defense Administrator Val Peterson warned that the Soviet H-bomb explosion mean, "We must prepare a better and bigger civil defense much sooner than many realize."
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	If an attack comes, he said, it will be "on a scale undreamed of in any past war,"
Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	Afterward, Chairman W. Sterling Cole (R) N.Y., said in a brief statement that "the United States, and thus the free world, is and will continue to be in a pre-eminent position" in both A-bomb and H-bomb' developments.
Achievement	JOURNEY	ACHIEVEMENT IS MOVEMENT	Afterward, Chairman W. Sterling Cole (R) N.Y., said in a brief statement that "the United States, and thus the free world, is and will continue to be in a pre-eminent position" in both A-bomb and H-bomb' developments.
Russia's Atomic Capabilities Magnify U.S. Defense Needs, 9/17/53 Washington Post			
Conflict	FORCE DYNAMIC	THE USE-RUSSIA RELATIONSHIP ARE A VESEL IN A MAELSTROM	But whether or not Malenkov was pulling a propaganda coup, the fact suggests that Russia and the United States are caught in the maelstrom of an atomic arms race.
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT, THE US IS A PERSON	Project East River an official of the vulnerability of the United States to atomic attacks concluded that as few as 100 A-bombs could seriously cripple out Nation and several times as many bombs could produce a knockout blow
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	When the H-bomb is added to the soviet arsenal, as we must logically expect will happen, it will add even greater power to the knockout punch of the Soviet blitz
Conflict	FORCE DYNAMIC	THE US-RUSSIA ARE SCORPIONS ATTACKING EACH OTHER	Then the United States and Russia are no longer like two runner in a foot race, they are rather like two scorpions in a bottle, to use Dr. Oppeheimer dramatic analogy. Each scorpion possesses a lethal sting.
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	For the first time in history our country is open to foreign attack–an attack which could produce a knockout effect
EISENHOWER URGES ATOMIC STOCKPILES FOR DEFENSE OF U. S. 10/7/53 The New York Times			
Achievement	FREEDOM	ACHIEVEMENT IS OBTAINING A DESIRED OBJECT	President Eisenhower asserted today that the United States and its allies were forced to continue stockpiling atom and hydrogen bombs to defend themselves against Communist Russia's plans for world domination

Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	President Eisenhower asserted today that the United States and its allies were forced to continue stockpiling atom and hydrogen bombs to defend themselves against Communist Russia's plans for world domination
Conflict	FREEDOM	FREEDOM SCHEMA, the free people of the world are those that are not Russia or Russian's allies	He declared the free world's "unbreakable will" to deter aggression and to preserve its freedom and security
Achievement	CONTAINER	RUSSIA ACHIEVING ATOMIC ENERGY IS RUSSIA KNOWING THE MYSTERIES OF THE ATOM	Now that "the mysteries of the atom are known to Russia," he went on, the world has but one choice between the following "paramount" alternatives: Cooperation for peace and prosperity. An armament race ending in sudden and mass destruction, erasure of cities [and] the possible doom of every nation and society."
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Eisenhower Warns Cities of War Peril, 12/15/53 Los Angeles Times			
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A FIGHT	President Eisenhower today voiced an "appeal to the common sense of America" to prepare, without panic or hysteria, for the possibilities of atomic attack
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A BATTLE	For the first time in history, cities have become targets for an enemy seeking to conquer our country
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A BATTLE	Gen. Eisenhower said America's enemies know that with every increase in the destructiveness of modem weapons, with every increase in the ability to place those weapons where they choose, the value of a surprise attack has gone up tremendously
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A BATTLE	They insure the national safety against atomic assault
Conflict	FORCE DYNAMIC	THE US-RUSSIA ATOMIC RELATIONSHIP IS A BATTLE	The citizens themselves must help. He said. Fire departments, Hospital and Health Departments, Police Departments, Sanitation Departments all must be prepared to handle their jobs

1954-1962			
GLOBAL TOPIC	**CONCEPTUAL STRUCTURE**	**CONCEPTUAL METAPHOR**	**LINGUISTIC REPRESENTATION**
Pacific Bomb Tests Hurled Man Into the Hydrogen Age, 4/2/54 The New York Times			
Atoms for war	JOURNEY	HYDROGEN ERA IS A JOURNEY	Pacific Bomb Tests Hurled Man Into the Hydrogen Age
Atoms for war	JOURNEY	HYDROGEN ERA IS A JOURNEY	It is evident that our scientists and engineers have catapulted mankind in one giant stride from the atomic into the hydrogen age
Atoms for war	MYTH	AMERICAN SCIENTISTS ARE CREATORS, PROMETHEAN MYTH	For example, it was realized that it would require the sacrifice of 80 kilograms of plutonium, the man-made atomic bomb fissionable element, to produce a kilogram of tritium
Atoms for war	CONTAINER	HYDROGEN ERA IS A CONTAINER	It is evident that our scientists and engineers have catapulted mankind in one giant stride from the atomic into the hydrogen age
Atoms for war	MYTH	AMERICAN SCIENTISTS ARE CREATORS, PROMETHEAN MYTH	It was the largest man-made explosion ever witnessed to that date
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	This remarkable new chemical compound, Lithium 6 Deuteride, has provided the answer to many a life-or-death question
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	This may well rank with one of the great understatements of history
Atom May Aid Housewife to Preserver Food, 4/2/54 Chicago Tribune			
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	Atom May Aid Housewife to Preserver Food
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	An atomic energy scientist told members of Congress that the time may come when meats and vegetables can be preserved without refrigeration
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	He told the subcommittee that the process of preservation can be likened to pasteurization, and that considerable success has been attained from the use of cobalt 60, which is radioactive cobalt now available in quantity from atomic energy operations
Atoms for peace	JOURNEY	ATOMIC ENERGY IS A JOURNEY	Other scientists working on projects in the use of atomic energy for peaceful purposes, reported that they are making great strides in development of grains resistant to rust, smut and other diseases
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	Applying radioactive, they are able to make changes in present strains of grains with great rapidity
Awesome Era Of Fantastic Missiles, 8/29/54 The New York Times			

Atoms for war	JOURNEY	ATOMIC ENERGY IS A NEW ERA	Awesome Era Of Fantastic Missiles
Atoms for war	MYTH	MISSILES ARE PEOPLE	Today's missiles are the brainchildren of thousands of scientists. Technicians and, engineers and they represent the partial solution of many major problems
Atoms for war	MYTH	MISSILES ARE PEOPLE, MISSILES ARE POWEFUL PEOPLE	The Nike can reach to regions and to altitudes beyond the range of anti-aircraft guns; the Viking has screamed to levels far higher than any interceptor: the Regales and the Matador - surface-to-surface weapons-have a greater "reach" (as does the Army's Corporal) than any gun.
Atoms for war	JOURNEY	ATOMIC ENERGY IS A BOOK, THE USE OF MISSILES IS A NEW CHAPTER	The first chapter of the guided-missile age is therefore comforting to the defense.
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The sardonic jest of a century ago-that the military, if given their head, would want bases on the moon to protect themselves against attacks from outer space-is now assuming the proportions of a dangerous prophecy
DOOM OF MANKIND SEEN IN ATOM WAR, 9/2/54 The New York Times			
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR, THE USE OF ATOMIC BOMBS IS DEATH	DOOM OF MANKIND SEEN IN ATOM WAR
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	One of England's leading scientists said today that the human race could not survive if more than a few thousand large atomic bombs were exploded, regardless of where they fell
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH, CONTAINER SCHEMA	We must face the possibility, he said, that repeated atomic explosions will lead to a degree of general radioactivity which no one can tolerate or escape
Atoms for war	THREAT	RADIATION IS MUTATION	As examples of possible scientific discoveries, "almost as grim as genetically deterioration in a radioactive world", he cited drugs or systems of education that would make us all do as we are told, producing radical conversions to a new system of belief
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	A war that probably would end in total destruction
Radioactivity, 11/8/54 The New York Times			
Atoms for war	MYTH	RADIATION IS A MYSTERY	Churchill statement hints poor liaison, but points to a Mystery of Atomic Age
Atoms for war	MYTH	RADIATION IS A MYSTERY	Radioactivity has highlighted publicly for the first time one of the continuing mysteries, and quite possibly one of the growing dangers, of the atomic age
Atoms for war	THREAT	RADIATION IS WEATHER	We have had reports since the world's nuclear experiments started of so-called radioactive-rain, in Chicago, Troy, and elsewhere, of radioactive hailstones in Washington, and so on

Atoms for war	THREAT	RADIATION IS DANGER	But among others worry about exactly what radioactivity does–and will do–to the world we live in has been sharpened, particularly since the hydrogen bomb
Atoms for war	THREAT	RADIATION IS DANGER	Such research, because ultimate survival of the species might be the reward, should have a far higher priority that it has now
Mutations From Atomic Radiation, 2/6/55 The New York Times			
Atoms for war	THREAT	RADIATION IS MUTATION	The genetic hazards of radiation in man based on the fruit fly mutations were revised in the light of this new knowledge
Atoms for war	THREAT	RADIATION IS DANGER	Death would result from human exposure to such high levels
Atoms for war	THREAT	RADIATION IS MUTATION	One spokesman said there was no one "estimate," but that many researchers had come to individual conclusions about the genetic hazards of radiation
Atoms for war	CONTAINER	RADIATION IS DANGER	The most pessimistic discussion of the hazards of fall-out is that of Dr. Alfred H. Sturtevant of the California Institute of Technology
Atoms for war	CONTAINER	RADIATION IS REFUSE	The most pessimistic discussion of the hazards of fall-out is that of Dr. Alfred H. Sturtevant of the California Institute of Technology
Atoms for war	THREAT	RADIATION IS MUTATION	In thirty years radiation would cause 1,800 deleterious human mutations
H-BOMB'S FALLOUT HELD ADDED DANGER, 2/8/55 Los Angeles Times			
Atoms for war	THREAT	H-BOMB IS POISON	California has scooped the Federal government by publishing details of the H-bomb's vast power to kill, destroy and poison
Atoms for war	CONTAINER	RADIATION IS AN ELEMENT MOVING	Defense study reporting among other things that H-bomb fallout can spread death and sickness for hundreds of miles beyond the super weapon's explosive reach
Atoms for war	CONTAINER	H-BOMB IS DESTRUCTION	Given such a bomb, severe to total damage or destruction is probable out to a minimum 7-11 miles
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	He estimates that a soviet nuclear attack would cost tens of millions of American casualties
Atoms for war	FORCE DYNAMIC	RADIATION IS AN ELEMENT MOVING	Fallout in dangerous amounts may spread downwind from the H-bomb burst for distances of 50 to 100 miles, depending on wind speed aloft
Bomb Could Imperil Maryland-Size Area, 2/11/55 Washington Post			

Atoms for war	THREAT	RADIATION IS POISON	The H-bomb would leave those homes and factories still standing uninhabitable for months, steeped in radioactive poison
Atoms for war	THREAT	RADIATION IS RAIN	A cloud of atomic dust rises high above and gradually rains down over a huge elliptical area
Atoms for war	FORCE DYNAMIC	RADIATION IS AN ELEMENT MOVING	His article is the first published analysis on fall-out, the downward spiral of wind sprays deathly radioactive dust sucked up earlier from explosions of the H-bomb
Defense	CONTAINER	CONTAINER SCHEMA	He urges a two-billion-dollar "survival shelter" program, which would place concrete dugouts in public land, playgrounds, golf courses, and along the dividing strips between highways
Atoms for war	CONTAINER	RADIATION IS A CONTAINER THAT YOU CANNOT ESCAPE	One cannot escape the conclusion that many metropolitan areas will become a kind of no-man's lands
Atoms for war	CONTAINER	RADIATION IS CONTAMINATION, RADIATION IS IMPURITY, CONTAINER SCHEMA	The Washington scientist is also concerned about the dangers of successive bomb bursts "saturating the world-wide atmosphere with radioactivity"
SCIENTIST ISSUES WARNING ON H-BOMB, 2/11/55 Los Angeles Times			
Atoms for war	CONTAINER	RADIATION IS A MANTEL	A single H-bomb exploded close to the ground could coat an area of the size of Maryland with a potential death mantle of radioactivity
Atoms for war	THREAT	RADIATION IS WEATHER	Lapp, a developer of the first atomic bomb, declared that people in the shadow of the atomic cloud can't run away for it
Atoms for war	THREAT	RADIATION IS AN ELEMENT MOVING	Most debris would fall back to earth promptly but the lighter particles, made radioactive by the explosion, would drift off in a deadly dust cloud
Atoms for war	THREAT	RADIATION IS WEATHER	Lapp said that if a person tries to flee on foot from an atomic dust cloud less than a day old, he would receive a dose of radiation twice the amount necessary to kill him
Atoms for war	THREAT	RADIATION IS POISON	Lapp said that if a person tries to flee on foot from an atomic dust cloud less than a day old, he would receive a dose of radiation twice the amount necessary to kill him
Describes H-Bomb's Cloud of Death, 2/11/55 Chicago Tribune			
Atoms for war	FORCE DYNAMIC	RADIATION IS AN ELEMENT MOVING	A vast region containing two thirds of the nation's industrial centers and 50 million inhabitants could be atomized by deadly radioactive fall out with 28 well placed hydrogen bombs

Defense	CONTAINER	CONTAINER SCHEMA	It has become mandatory that the government begin construction of an extensive system of survival shelters on
Atoms for war	THREAT	RADIATION IS AN ELEMENT MOVING	Most of this debris would fall back to earth promptly, but the lighter particles, made radioactive by the explosion would drift off in a deadly cloud
Atoms for war	THREAT	RADIATION IS CONTAMINATION	If a man should stand erect in the center of a field, some light from all the bulbs or some illumination of radioactive rays from all the dust would fall on him
Defense	CONTAINER	CONTAINER SCHEMA	Must be coupled to a realistic shelter program
U. S. H-BOMB TEST PUT LETHAL ZONE AT 7,000 SQ. MILES, 2/16/55 The New York Times			
Atoms for war	THREAT	H-BOMB IS CONTAMINATION	The hydrogen bomb tested- by the United States a year ago polluted a 7,000-square-mile area with lethal radioactive fall-out
Atoms for war	THREAT	RADIATION IS DANGER	The fall-out from large nuclear bombs exploded on near the surface of the earth would create serious hazard to civilian populations
Atoms for war	THREAT	RADIATION IS AN ELEMENT MOVING	There was sufficient radioactivity in a downwind belt about 140 miles in length and of varying width up to twenty miles to have seriously threatened the lives of nearly all persons in the area who did not take protective measures
Atoms for war	THREAT	RADIATION IS DANGER	Straus warns that human survival might depend on prompt protective steps
Atoms for war	THREAT	RADIATION IS MUTATION	Genetic Harm Is Doubted
Report Issued by the Atomic Energy Commission on Effects of H-Bomb Explosions, 2/16/55 The New York Times			
Atoms for war	THREAT	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT	So long as nuclear weapons are in possession of any unfriendly power, the commission believes the American public will wish to be as fully informed as possible as to the nature and extent of the dangers of nuclear attack
Atoms for war	CONTAINER	RADIATION IS REFUSE	Residual radioactivity, although in no sense exclusive to high yield thermonuclear detonations, does become a matter of major concern when a large thermonuclear device of the type used in the tests in 1954 in the Pacific is exploded
Atoms for war	THREAT	RADIATION IS WEATHER	However, rainfall carrying the radiostrontium down to earth may deposit it in the soil, where it can, be taken up, in part, by plants and incorporated into plant tissues, later to be eaten by humans or by grazing animals which, in I turn, provide food for humans.
Atoms for war	THREAT	RADIATION IS MUTATION	This is the possible genetic effects upon the germ cells which transmit inherited characteristics from one generation to another

Defense	FREEDOM	THE US-RUSSIA RELATIONSHIP IS WAR, FREEDOM SCHEMA	The degree of risk must balance against the great importance of the test programs to the security of the nation and have the free world.
Blast at Norfolk Could Kill Persons On Edge of D.C. Strauss Indicates, 2/16/55 Washington Post			
Atoms for war	CONTAINER	RADIATION IS A BLANKET	A hydrogen bomb such as was exploded in the Bikini Atoll last March is capable of blanketing a 7000 square mile area the site of New Jersey with deadly radioactive "fall-out," Lewis L. Strauss chairman of the Atomic Energy Commission announced yesterday
Defense	CONTAINER	CONTAINER SCHEMA	Even simple shelters, Strauss said, greatly reduce the danger from radioactivity.
Atoms for war	THREAT	RADIATION IS DANGER	The fall-out from large nuclear bombs exploded on or near the surface of the earth would create serious hazard
Atoms for war	THREAT	RADIATION IS POISON	Two fallout ingredients to produce dangerous internal radiation effects: strontium-90, a radioisotope similar to calcium; and radioiodine-131.
Atoms for war	THREAT	RADIATION IS MUTATION	Strauss said "there is a rather wide range of admissible opinion on how radiation affects the genes in human reproduction
ATOM'S PEACE USE IS HELD PRIMARY, 2/25/55 The New York Times			
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	Nuclear energy will prove to be more usable as a power source for raising the world's standard of living, pioneer atomic scientist declared yesterday
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	"Atomic materials, by their very total character, have been made unusable for war," Dr. Dunning said. However, they provide the only way by which the two to three billion people of the world can possibly solve their energy needs for sustenance and a decent standard of human dignity
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	Here is the promise of the decent and the good life for all men everywhere
Atoms for peace	FREEDOM	ATOMIC ENERGY IS FREEDOM	"If we mean what we say in a democracy - that man should have 'the good life' - then we must have an inescapable dependence on science or we are otherwise condemned to a slave existence."
AN ATOM SHIP FOR PEACE, 4/25/55 The New York Times			
Defense	FREEDOM	THE US-RUSSIA RELATIONSHIP IS WAR, FREEDOM SCHEMA	In a dramatic sequel to his atoms for peace proposal President Eisenhower now announces plans to build and send around the world a new atom-powered merchant ship as a symbol of American determination to use the new atomic forces not only for the defense of the free world but also for the improvement of living standards everywhere

Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	In a dramatic sequel to his atoms for peace proposal President Eisenhower now announces plans to build and send around the world a new atom-powered merchant ship as a symbol of American determination to use the new atomic forces not only for the defense of the free world but also for the improvement of living standards everywhere
Atoms for peace	CONTAINER	USING ATOMIC ENERGY IS BUILDING, ATOMIC ENERGY IS A FORCE	Yet all the instincts and traditions of the American people are not for destruction but for construction, and these instincts and traditions have' prompted the United States to take the initiative in harnessing the atom for peaceful and constructive purposes
Atoms for peace	FREEDOM	FREEDOM SCHEMA	But a merchant ship is also a symbol of something wider, something affecting all free nations, and that is world trade, by which the free nations must live
Atoms for peace	CONTAINER	USING ATOMIC ENERGY IS BUILDING	It is essential for building up the economic strength of the free nations
Atoms for peace	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE	It is essential for building up the economic strength of the free nations
MOSCOW CONFIRMS IT TESTED H-BOMB OF VAST STRENGTH, 11/27/55 The New York Times			
Atoms for war	FREEDOM	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT (ACHIEVING IS FREEDOM)	The Soviet Union confirmed today that it had recently exploded its "most powerful" hydrogen weapon, embodying "important new achievements" of Soviet scientists
Atoms for war	FREEDOM	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT (ACHIEVING IS FREEDOM)	The latest statement appeared to be designed to underline references to "new types" of bombs and "new achievements" by Soviet scientists and engineers
Atoms for war	FORCE DYNAMIC	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	In this field presumably were meant to show the Soviet Union was not standing still in developing nuclear weapons despite its frequent demands that they be unconditionally prohibited
Atoms for war	FORCE	POWER IS MORE	He said the power of the blast was equal to that of 1,000,000 tons of TNT-a megaton.
Atoms for war	FORCE	UP IS MORE, POWER IS MORE	BLAST AT GREAT HEIGHT
Russia Claims Blast of Greatest H-Bomb, 11/27/55 Los Angeles Times			
Atoms for war	FORCE	POWER IS MORE	Russia announced today it has set off "the most powerful of all" hydrogen bomb explosions
Atoms for war	FORCE	POWER IS MORE	"The last explosion of the hydrogen bombs was the most powerful of all explosion carried out so far" the announcement issued by the Soviet Tess news agency declared.
Defense	LINK	CONTROLLING IS ESTABLISHING	The establishment of international control
Atoms for war	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	That would lead to an arms race because each would try to equal the other, he said

Atoms for war	FREEDOM	ACHIEVEMENT IS FREEDOM	The test showed important achievements of Soviet scientists and engineers
Russia Tells of 'Big H-Bomb' Explosion, 11/27/55 Chicago Tribune			
Atoms for war	FORCE	POWER IS MORE	Most Powerful of Red Tests
Atoms for war	FORCE	POWER IS MORE	The announcement, made to reporters at the foreign ministry, followed a statement by the Communist party boss, Nikita Khrushchev, in lndia that the bomb equaled a million tons of TNT [a megaton].
Atoms for war	FREEDOM	ACHIEVEMENT IS FREEDOM	The tests have fully confirmed the pertinent scientific and technical calculation showing the new and important achievements of soviet scientists and engineers.
Defense	JOURNEY	AGREEMENT IS REACHING A POINT (IN THE SAME DIRECTION)	The soviet union will continue to strive to reach agreement in the United Nations on the prohibition of atomic weapons
Atoms for war	MYTH	RUSSIA IS A PERSON	The soviet government has stood and stands for the banning of atomic and hydrogen weapons
MISSILE RACE POSING NEW DANGER FOR WEST, 2/5/56 The New York Times			
Atoms for war	MYTH	MISSILES ARE LIVING BEINGS	The missile–the robot 'bird' that flies through the air–began to play a role in geopolitics last week
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Top priority in the arms race is now for the most effective delivery systems and the defense against missiles.
Atoms for war	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	If soviet Russia does win the intermediate-range ballistic race she will undoubtedly have an advantage, even though a temporary one, in intermediate-range delivery systems.
Atoms for war	COMPETITION	ATOMIC RESEARCH IS A COMPETITION	The Communists could be expected to exploit to the full the psychological and political advantages of a first in the ballistic-missiles race
Atoms for war	JOURNEY	ATOMIC ENERGY IS A NEW ERA, metonym: pushing buttons is using missiles	The push-button age, therefore, does portend important military, political and psychological changes in the present world picture
Atoms for Peace Will Conquer Atoms for War, 2/5/56 The New York Times			
Atoms for peace	MORALITY	ATOMS FOR PEACE IS A PERSON ATOMS FOR WAR IS A PERSON, ATOMS FOR PEACE AND ATOMS FOR WAR ARE IN A BATTLE	Atoms for Peace Will Conquer Atoms for War
Atoms for peace	CONTAINER	USING ATOMIC ENERGY IS BUILDING	THE atom has within it a greater potential for constructive use by mankind for the enrichment of life than any other single development in the recorded history of the world.

Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	THE atom has within it a greater potential for constructive use by mankind for the enrichment of life than any other single development in the recorded history of the world.
Atoms for peace	MORALITY	ATOMS FOR PEACE IS A PERSON ATOMS FOR WAR IS A PERSON, ATOMS FOR PEACE AND ATOMS FOR WAR ARE IN A BATTLE	I have a deep and abiding faith that the atom for peace will win a decisive victory over the atom for war.
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	The advance in the standards of well-being of the people and the enjoyment of a fuller life through atoms for peace are all more attractive prospects
Atoms for peace	MORALITY	ATOMS FOR PEACE IS A PERSON ATOMS FOR WAR IS A PERSON, ATOMS FOR PEACE AND ATOMS FOR WAR ARE IN A BATTLE	But none of these problems is insurmountable, and a constant, informed review of the nature of the extreme choice before mankind, with patient and persistent efforts, does hold a bright hope that atoms for peace win defeat atoms for war.
H-BOMB BLAST DESCRIBED, 5/21/56 Chicago Tribune			
Atoms for war	FORCE	POWER IS MORE	The explosion was the most stupendous ever released on earth, dwarfing all the previous hydrogen bombs by the United States, and by all indications, all similar tests in Russia
Atoms for war	MYTH	ATOMIC ENERGY IS FIRE	After an interval of less than a second, there came a giant pillar of fire that rose from the ground. The pillar caught up with the base of the fireball and seemed to push it into the sky
Atoms for war	FORCE	ATOMIC ENERGY IS A LIVING CLOUD	A giant super-earthly cloud that kept climbing upward and that wept climbing and spreading until it appeared as if it would develop the earth
Atoms for war	MYTH	ATOMIC ENERGY IS LIGHT	For more than one hour the cloud kept growing in all directions. At first obscure somewhat by the grey clouds in front of it, soon it emerged, its iridescent mushroom of many colours, from deep purple below to light orange and pink at the top, rising even higher until it towered far above all its surroundings
Atoms for war	MYTH	ATOMIC ENERGY IS A COSMIC FORCE	Burst above bikini bright as 500 suns
Reds Admit New Test of A-Weapon, 9/1/56 Washington Post			
Atoms for war	FREEDOM	ACHIEVEMENT IS MOVEMENT	The Soviet announcement said the Thursday test, together with that of last Friday, previously announced by the President, "as well' as other tests impending are for the improvement of nuclear weapons and the evolving of new types for the armament of various branches of the armed forces
Atoms for war	THREAT	H-BOMB IS CONTAMINATION	A "clean bomb" is one with limited deadly radioactive fall-out
Atoms for war	THREAT	RADIATION IS DANGER, RADIATION IS CONTAMINATION	This danger comes mainly from radioactive atoms that cling to dust particles turned up in enormous quantities

Atoms for war	FREEDOM	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	Mr. Eisenhower said that it is notable that although Soviet diplomats throughout the world talk about the possibility or plans for abolishing the atom weapon from the arsenals of the world, that they go right ahead without prior announcement and with wartime secrecy
Atoms for war	THREAT	H-BOMB IS POISON	Neither the United States nor Russia has made clear whether they claim to have around a method of reducing world-wide radioactive fallout that poisons the atmosphere over a period of years
Atomic Wonder Machine Being Built on L. I. 11/18/56 The New York Times			
Atoms for peace	CONTAINER	ATOMIC ENERGY IS THE KEY TO A CONTAINER (with the secrets of the universe)	The world's most powerful and most precise atomic machine for probing into the fundamental secrets of the universe is under construction at the Brookhaven National Laboratory, Upton, L. I.
Atoms for peace	MORALITY	ATOMIC ENERGY IS A MARVEL	The new machine, when completed in about three years will be one of the wonders of the modern world
Atoms for peace	MORALITY	ATOMIC ENERGY IS A MARVEL	It will also create a great variety of mysterious particles known as mesons
Atoms for peace	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT	The secret of the atoms are expected to be revealed with a clarity greater than ever before
Atoms for peace	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT	It is certain that new and even more baffling mysteries will come to light
			Fallout Produced Now Will Shorten Lives in Future, Unanimous View, 1/5/57 Washington Post
Atoms for war	THREAT	RADIATION IS POISON	A panel of the country's top geneticists was unanimous yesterday in telling Congress that radiation, no matter how small the dose, endangers future generations of mankind.
Atoms for war	CONTAINER	THE USE OF ATOMIC BOMBS IS DESTRUCTION	A full-fledge nuclear war would result in "the cataclysmic ruination of humanity in general"
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	Every bomb test adds to the biological hazards
Atoms for war	THREAT	RADIATION IS MUTATION	The number of mutations on hereditary genes is proportional to the amount of radiation received
Atoms for war	THREAT	RADIATION IS MUTATION	There is no recovery from genetic damage
Fallout, 1/6/57 Washington Post			
Atoms for war	THREAT	RADIATION IS A PERSON, IS AN ENEMY	The specter of a new enemy of mankind: Stronium-90, seemed near and forbidding
Atoms for war	THREAT	RADIATION IS CONTAMINATION, RADIATION IS IMPURITY	If the explosion is near the ground, a cloud of pulverized earth and rock rises with this dust. This debris shoots off atomic rays.

Atoms for war	THREAT	RADIATION IS DANGER	If you receive enough Strontium-90, cancer of the bone can develop.
Atoms for war	THREAT	RADIATION IS CONTAMINATION	An immense increase in tests would add to the total atomic dust aloft and an occasional heavy fallout might occur
ATOM FALLOUT PERILS FUTURE, PAULING WARNS, 6/3/57 Chicago Tribune			
Atoms for war	THREAT	RADIATION IS MUTATION	Fallout from nuclear tests will cause that 200,000 children in each of the next 20 generations to be mentally or physically defective.
Atoms for war	THREAT	RADIATION IS DANGER	ATOM FALLOUT PERILS FUTURE, PAULING WARNS, 6/3/57 Chicago Tribune
Atoms for war	THREAT	RADIATION IS DANGER	That radiation in relatively small amounts can cause cancer and leukemia
Atoms for war	THREAT	RADIATION IS DANGER	No human beings should be sacrificed for protecting a program of destruction
Defense	JOURNEY	LOOKING FOR A SOLUTION FOR ATOMIC THREAT IS A JOURNEY	I know, he said, that thousands of my fellows American scientists are in agreement that we should take this important step [we have to stop the bomb tests]
Radioactive Isotopes, 8/4/57 The New York Times			
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING, MONEY IS WELL-BEING	Radioactive Isotopes are yielding a total of $400,000,000 a year in savings to American industry
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING, MONEY IS WELL-BEING	The American people and the Western world will get their atomic armament and their atomic power development costs all free
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	Radioisotopes have been particularly useful in such diagnostic procedures as analysis of thyroid gland function, determination of blood volume, location of tumors, and liver function
Atoms for peace	MORALITY	ATOMIC ENERGY IS A TOOL	Radioactive materials are important tools for many types of agricultural studies
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING, MONEY IS WELL-BEING	Professor Libby reported, have already led to savings to American manufacturers of about $120,000,000 a year
Soviet Atom Tests Blamed for Higher Fallout in East, 4/6/59 Los Angeles Times			
Atoms for war	FORCE DYNAMIC	RADIATION IS DANGER, RUSSIA USING BOMBS IS RUSSIA SPREADING RADIATION OVER THE US	The intensive Soviet atomic test series of last fall resulted in a sharp increase of radioactive material over the eastern United States during the first part of the year
Atoms for war	FORCE DYNAMIC	RADIATION IS DANGER, RUSSIA USING BOMBS IS RUSSIA SPREADING RADIATION	The Soviet Union last fall deposited an extremely large amount of radioactive material in the stratosphere
Atoms for war	THREAT	RADIATION IS CONTAMINATION	The explosions–ranged from moderated to large yields–are estimated by Dr. Libby as the most radioactively "dirty" ever held and to have about doubled the amount of radioactive debris in the stratosphere.

Atoms for war	THREAT	RADIATION IS REFUSE	The high peaks in October and November could have been created by atomic debris
Atoms for war	THREAT	RADIATION IS DANGER, MOVEMENT METAPHORS, CONTAINER SCHEMA	Stronium-90 material, which accumulates on the ground and then is absorbed into the chain food.
Atom Fallout on U.S. Said to Be Greatest, 5/22/59 Los Angeles Times			
Atoms for war	FORCE DYNAMIC	RADIATION IS A OBJECT MOVING	Most radioactive particles that have collected in the stratosphere would reach the earth in two years
Atoms for war	THREAT	RADIATION IS DANGER	The letter, containing new information about radiation hazards, was one of three official letters the congressional committee released ill censored form today
Atoms for war	THREAT	RADIATION IS DANGER	The hazard of local radiation has been fairly well delineated
Atoms for war	THREAT	MORE RADIATION IS MORE DANGER	Recent indications, he went on, are that radioactive in the stratosphere has increased
Fallout: What We Know and Don't Know, 1/10/60 The New York Times			
Atoms for war	THREAT	RADIATION IS POISON	There is no disagreement about the dangers of this kind of fallout: the kind that occurs within a relatively short distance of an atomic blast and that delivers overwhelming, massive, lethal doses of radiation
Atoms for war	FORCE DYNAMIC	RADIATION IS A OBJECT MOVING	Radioactivity can penetrate human tissue and produce chemical changes in the cells it traverses
Atoms for war	FORCE DYNAMIC	RATIATION IS CONTAMINATION, RADIATION IS AN OBJECT MOVING	Thus, when the present atmospheric burden of dust settles out in two or three more years, the levels of fallout will double even if no further testing occurs.
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	WHEN we add such emotional factors as the genuine concern of mothers for the welfare of their children, and the fears of the world of a nuclear holocaust, we have all the prerequisites for confusion
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	The threat of fallout in nuclear war is the greatest threat to man's survival since the plagues of medieval times
ATOM POWER ERA NEAR, A.E.C. SAYS, 2/17/60 The New York Times			
Atoms for peace	JOURNEY	THE USE OF ATOMIC POWER IS A NEW ERA	ATOM POWER ERA NEAR, A.E.C. SAYS
Atoms for peace	MORALITY	ATOMS FOR PEACE IS ECONOMIC WELL-BEING	The Atomic Energy Commission told Congress today that nuclear energy was on the threshold of becoming an economic source of power

Atoms for peace	JOURNEY	ATOMIC ENERGY IS A JOURNEY	As evidence that a turning point had been reached, the commission reported that two California utility companies were actively considering construction of two large atomic plants that promised to produce economically competitive, electricity.
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING	"Would be competitive over the life of the plants."
Atoms for peace	MORALITY	ATOMIC ENERGY IS WELL-BEING, MONEY IS WELL-BEING	To achieve economically competitive nuclear power in high-cost power areas of the United States
Can You Survive Atom Holocaust? 5/13/60 Los Angeles Times			
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	Can You Survive Atom Holocaust?
Defense	CONTAINER	CONTAINER SCHEMA	Home fallout shelters as the best means of mass protection in event of disaster
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR, THE US IS A BODY	Our homeland is vulnerable to attack by an aggressive enemy
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	They are the most cognizant of the need for survival methods in order to protect their families
Defense	CONTAINER	DEFENDING IS BUILDING	We feel we aerate minimum basis, and need to build up our organization to increase its effectiveness
Scientists See Danger Of Atom War in 15 Years, 7/16/60 Washington Post			
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Scientists See Danger Of Atom War in 15 Years
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	Prediction that nuclear tests would bring the human race to the danger point in 15 or 20 years
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	If hydrogen and atomic bombs explosions continue at the present rate, the danger point to the human race will be reached in 15 or 20 years
SCIENTISTS WARN OF NUCLEAR WAR, 7/16/60 Los Angeles Times			
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	SCIENTISTS WARN OF NUCLEAR WAR
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	A group of American' scientists foresees a nuclear holocaust within 15 years
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	It appears unlikely that the world will avoid a nuclear holocaust if another 15 years pass without arms control agreements
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	We do not know what risk or gain each such step may imply.
Defense	LINK	CONTROL SCHEMA, LINK SCHEMA	On the 15th anniversary of the nuclear arms race, let us recognize that while time is short, time still remains. We must no longer fail to do our utmost towards seeking arm control

McNamara Says Shelters Can Save 10 Million Lives, 8/2/61 The New York Times			
Defense	CONTAINER	CONTAINER SCHEMA	The administration's fall-out shelter plan could save at least ten to five million lives in case of a nuclear attack
Defense	CONTAINER	RUSSIA IS AN OUTER THREAT	The program was only the first phase of a stepped-up civil defense effort
Defense	CONTAINER	RUSSIA IS AN OUTER THREAT	He said that an adequate civil defense was integral part of the overall deterrence and would provide "further unmistakable evidence of serious determination on our part."
U.S. Can Survive Atomic War, AEC Expert Tells House Unit, 8/5/61 Washington Post			
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	U.S. Can Survive Atomic War, AEC Expert Tells House Unit
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	The picture is not all black, said Charles Dunham, director of medicine and biology for the Atomic Energy Commission.
Defense	CONTAINER	CONTAINER SCHEMA	Radiation casualties alone could be cut considerably if shelters are prepared
Defense	CONTAINER	CONTAINER SCHEMA	Even simple home shelters could reduce the radiation doses to persons
Defense	CONTAINER	CONTAINER SCHEMA	But he said the shelters must have adequate food and water to maintain a family for several weeks
Text of the White House Statement on Soviet Atomic Testing, 8/31/61 The New York Times			
Atoms for war	FREEDOM	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	The Soviet Government's decision to resume nuclear weapons testing presents a hazard to every human being throughout the world by increasing the dangers of nuclear fall-out
Defense	FREEDOM	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT (ACHIEVING IS FREEDOM)	The Soviet Government's decision to resume nuclear weapons testing presents a threat to the entire world by increasing the dangers of a thermonuclear holocaust
Defense	JOURNEY	ATOMIC AGREEMENT IS A JOURNEY	Only this week Ambassador Dean has made additional proposals in the hope of moving toward a test ban under effective international control
Defense	JOURNEY	AGREEMENT IS CEASE OF MOVEMENT	Such an agreement would represent a major break through in the search for an end to the arms race
Defense	JOURNEY	AGREEMENT IS CEASE OF MOVEMENT	The United States continues to share the view of the people of the world as to the importance of an agreement to end nuclear weapons tests under effective safeguards. It would stop the accumulation of stockpiles of even more powerful weapons. It would inhibit the spread of nuclear weapons

Atoms for war	CONTAINER	MAYOR NUMBER OF NUCLEAR WEAPONS IS PHYSICAL EXPANSION	The United States continues to share the view of the people of the world as to the importance of an agreement to end nuclear weapons tests under effective safeguards. It would stop the accumulation of stockpiles of even more powerful weapons. It would inhibit the spread of nuclear weapons
Soviets to Renew Testing A-Weapons; Kennedy Sees Nuclear Holocaust Peril, 8/31/61 Washington Post			
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	Soviets to Renew Testing A-Weapons; Kennedy Sees Nuclear Holocaust Peril
Atoms for war	FREEDOM	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	The White House said last night that Soviet resumption of nuclear testing "increases the danger of a thermonuclear holocaust."
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH, HOLOCAUST SCHEMA	The White House said last night that Soviet resumption of nuclear testing "increases the danger of a thermonuclear holocaust."
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	The attempt to halt the nuclear race
Atoms for war	JOURNEY	ATOMIC ENERGY IS A JOURNEY	Sen. George D. Aiken commented that this is a long step towards war. He said he was glad that 'it was taking by the Soviet Union and not by the United States
U.S. ATOMIC MIGHT CAN SAVE FREE WORLD, KENNEDY SAYS, 9/1/61 Los Angeles Times			
Defense	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE	U.S. ATOMIC MIGHT CAN SAVE FREE WORLD, KENNEDY SAYS
Atoms for war	FORCE DYNAMIC	ARGUMENT IS BLACKMAIL	President Kennedy Thursday denounced the soviet decision of resuming nuclear tests as 'atomic blackmail' and was reported ready to reassure the free world by disclosing details of the magnitude of US nuclear arsenal
Atoms for war	THREAT	RADIATION IS CONTAMINATION; CONTAINER SCHEMA	One source said that this policy was designed to leave no doubt in world opinion about the kremlin responsibility in subjecting humanity to new risks of radioactive pollution
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS A THREAT; DEFENSE SCHEMA	It was grim, one senator declared, the world has never been in greater peril
Defense	FORCE DYNAMIC	DEFENSE SCHEMA	We will continue to keep ourselves prepare to test if and when at any given time it is deemed that testing being resumed
Atoms for war	FORCE	POWER IS MORE	We have nuclear superiority over the Soviet Union in quantity, quality and design, and we have the means of delivery far in excess of the Soviet Union
KENNEDY HITS RED 'ATOMIC BLACKMAIL', 9/1/61 Chicago Tribune			
Atoms for war	JOURNEY	ACHIEVING IS MOVING	President Kennedy today accused Russia of atomic blackmail and terrorism in abruptly deciding to resume nuclear weapons testing
Defense	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE	What the Soviet Union is obviously testing," the statement continued, "is not only nuclear devices but the will and determination of the free world to resist such tactics and to defend freedom

Defense	JOURNEY	ACHIEVING IS MOVING	Derive all possible psychological advantage from the Russian move and to make sure our moral position is maintained
Defense	FORCE DYNAMIC	DEFENSE SCHEMA	He urged resumption of American testing to perfect our nuclear arsenal in self-defense
Atoms for war	FORCE DYNAMIC	RUSSIA EXPASION IS THE WORLD BECOMING COMMUNIST	The Russian premier apparently has decided to intensify the Kremlin's aggressive drive to communize the world
RUSSIA FIRES MEDIUM-SIZE ATOMIC BOMB, 9/2/61 Chicago Tribune			
Atoms for war	FORCE	POWER IS MORE	The Russian exploded a nuclear weapon today that had a force greater that the atomic bomb exploded at Hiroshima
Atoms for war	FORCE DYNAMIC	ARGUMENT IS BLACKMAIL	On Wednesday he called the resumption of testing atomic blackmail
Atoms for war	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT, CONTAINER SCHEMA	It is suspected, but not proved, In some quarters that the Communists have been conducting secret tests
Atoms for war	FREEDOM	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT (ACHIEVING IS FREEDOM)	Dean earlier had told reporters after meeting President that Russian was determined to rest its future police on the terrorization of humanity
Atoms for war	FREEDOM	RUSSIA POSSESSING NUCLEAR POWER IS A THREAT (ACHIEVING IS FREEDOM)	The Russian boast that it could build a 100 megaton bomb means that it would be an instrument of mass terror rather than a military weapon
REDS TEST SECOND A-DEVICE, 9/5/61 Washington Post			
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR, ARGUMENT IS WAR	America made a blistering attack on Russia today, charging the Soviet Union with "perfidy" and "betrayal"
Atoms for war	LINK	CONTROL IS HALT	Harold Macmillan for an immediate halt to further air tests
Defense	FREEDOM	THOSE WHO ARE NOT COMMUNIST ARE FREE	After all we have more adequate nuclear weapons of our own to guarantee our own security and protect the free world
Defense	LINK	CONTROL IS CESSASION	The peoples of the world demand cessation of tests but it is the Soviet Union which is flaunting their will and dashing their hopes for a test ban
Defense	CONTAINER	RADIATION IS AN OUTER THREAT	Would the Soviet government refuse to protect the common people of the world from radiation?
NEW RUSS A-SHOT Blast in Air of Nuclear Test Device Disclosed, 9/5/61 Los Angeles Times			
Atoms for war	THREAT	RADIATION IS POISON	Atmospheric nuclear shot normally cause diffusion of poisonous radioactive materials, the chief reason given in the US-British proposal for a ban on atmospheric explosions
Atoms for war	FORCE DYNAMIC	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	The Soviet government announced last Wednesday that it had decided to resume nuclear weapons testing

Atoms for war	CONTAINER	RADIATION IS DANGER, CONTAINER SCHEMA	Mr. Kennedy is said to feel a ban on atomic blasts that spread potentially deadly fallout is essential to humanity
Atoms for war	FORCE DYNAMIC	MOVEMENT SCHEMA	Have an opportunity to advance the worldwide search for solution to the central threat of our time, nuclear war
RUSSIANS SET OFF TWO MORE BLASTS, 9/11/61 The New York Times			
Atoms for war	FREEDOM	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	The Soviet Union opened the second series in its current nuclear tests today, detonating two devices over its Arctic proving grounds
Atoms for war	FORCE	POWER IS MORE	A megaton is equivalent in explosive power to 1,000,000 ton of TNT. The Arctic blast that began the new series appeared to have had the force of two of three megatons
Atoms for war	FREEDOM	ACHIEVING IS MOVING	In resuming atomic tests, Moscow broke a three years moratorium in which the U.S and Britain had participated
Atoms for war	LINK	CONTROL IS HALT	Mr. Kennedy and Mr. Macmillan appealed to Mr. Khrushchev last Sunday to halt tests in the atmosphere to prevent the spread of radioactive fall-out
Atoms for war	FREEDOM	ACHIEVING IS MOVING	The greater power of the Soviet rocket engines has made this advantage possible
Russians Fire Eighth and Ninth Atomic Devices, 9/14/61 Washington Post			
Defense	LINK	CONTROL IS HALT	Soviet Russia set off two more nuclear blasts yesterday against a backdrop of anxious efforts by other nations to halt all atomic testing in the interest of world peace
Atoms for war	FREEDOM	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	"The Soviet Union's program of testing is progressing rapidly," the note said, suggesting that extensive secret preparations for test resumption were undertaken during a major portion of this year's session of the Geneva conference."
Defense	CONTAINER	RUSSIA IS AN OUTER THREAT	The note also rebuked the Soviet Union for its disdain for the security and well-being of all mankind
Atoms for war	FORCE DYNAMIC	RADIATION IS A OBJECT MOVING	Other fears continue to disturb the world as fallout from recent soviet nuclear tests circle the globe
Atoms for war	THREAT	RADIATION IS WEATHER	The nuclear cloud from the first of the new soviet tests has circled the globe and is back over the soviet union
NUCLEAR FALL-OUT DANGER STIRS WIDE FEARS, 10/15/61 The New York Times			

Atoms for war	THREAT	RADIATION IS DANGER	With each explosion, invisible particles of radioactive byproducts–such as the long-lived radioisotopes strontium-90 and; cosium-1ST and the short-lived strontium-89 and iodine-131–are shot forth from the mushroom cloud
Atoms for war	THREAT	RADIATION IS DANGER	The biggest and most crucial uncertainty is the nature and amount of biological damage the radioactive materials cause
Atoms for war	THREAT	RADIATION IS MUTATION	The general scientific assumption is that any amount of radiation, however small can cause genetic damage
Atoms for war	THREAT	RADIATION IS CONTAMINATION	The Soviet tests, therefore, will add about 10 per cent to the radioactive contamination of the past tests
Atoms for war	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	United States must resume atmospheric tests in order to keep pace with the rapidity of the Soviet test series
U. S. ATOMIC EDGE BELIEVED IN PERIL: Loss of Nuclear Deterrent Feared in Soviet Build, 10/27/62 The New York Times			
Atoms for war		ATOMIC POWER IS WEIGHT	The continued deployment of long-range missiles Lit bases in Cuba would dangerously tip the nuclear balance to the detriment of the United states
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The Soviet Union would have enough 'first strike' power to reduce-if not neutralize -this retaliatory power of the United States
Atoms for war	FORCE DYNAMIC	RUSSIA ACHIEVING ATOMIC POWER IS RUSSIA MOVING	Officials believe that the Soviet move to put ballistic missiles into Cuba can be explained almost entirely on military grounds
Atoms for war	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT	The mystery over the types of missiles involved is heightened by the fact that the Defense Department is crediting the Soviet missiles with far greater range
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The existence of the medium range missiles in firing position could serve as a deterrent against any United States invasion
U.S. Detonates High Altitude Nuclear Shot: Tests Due to End, but Sources Predict an Extension, 10/27/62 Los Angeles Times			
Atoms for war	FORCE DYNAMIC	MOVEMENT SCHEMA	The blast was the third US high-altitude in a multiple series of nuclear tests by both the United States and Russia in pursuit of more effective and more devastating atomic arms
Atoms for war	MYTH	ATOMIC ENERGY IS LIGHT, LIGHT IS POWER	Observers in Hawaii said that the detonation was visible as a short-lived flash whose glow turn from red to green to gray-blue before disappearing
Atoms for war	FORCE DYNAMIC	ATOMIC CONFLICT IS FIGHT	The US testing's are also aimed at proof-testing stockpiled but untested atomic weapons and at developing weapons with more punch per pound

Atoms for war	CONTAINER	ATOMIC ENERGY IS A SECRET OBJECT, CONTAINER SCHEMA	Many of these new, but secret, ideas have been already introduced into the current US tests.
U.S. Ponders Move Before Cuban Bases Can Force Blackmail: Decision Time Narrows Nuclear, 10/27/62 Washington Post			
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	President Kennedy and Soviet Premier Nikita S. Khrushchev are approaching knife-edge decisions of war or peace, far more ominous than the ship blockade in the Caribbean.
Atoms for war		TIME IS SPACE	The time span for a military decision by the United State about the missiles, as well as the time for a diplomatic solution, therefore narrows as the construction of the Cuban missile bases proceeds
Atoms for war	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS FIGHT	Leaders believe they can knock out Cuba's missiles without resorting to an American nuclear attack on Cuba
Defense	JOURNEY	ATOMIC AGREEMENT IS A JOURNEY	But a much greater obstacle undoubtedly would be a Soviet counter-demand to include Europe in an atom free agreement
Atoms for war	COMPETITION	ATOMIC CONFLICT IS BUSINESS	The United States is not interested in this kind of deal
Peril of Nuclear Hell Spurs Peace Seekers, 12/9/62 Los Angeles Times			
Atoms for war	THREAT	THE USE OF ATOMIC BOMBS IS DEATH	Our age has been practically nothing but one, big fire of war dying down only to flame up in greater, fury
Atoms for war	COMPETITION	ATOMIC CONFLICT IS COMPETITION	The atom bomb started the most fantastic arms race in history
Atoms for war	JOURNEY	ATOMIC CONFLICT IS A JOURNEY	We seem to be drifting helplessly toward another disaster
Defense	FREEDOM	FREEDOM IS AN OBJECT	Now above all we must try to recover our freedom
Atoms for war	JOURNEY	MOVEMENT SCHEMA	We cannot escape present reality
1963-1979			
GLOBAL TOPIC	**CONCEPTUAL STRUCTURE**	**CONCEPTUAL METAPHOR**	**LINGUISTIC REPRESENTATION**
Macmillan Says He and Kennedy View Test-Ban Talks Hopefully, 7/4/63 Washington Post			
Agreement	JOURNEY	ATOMIC TALKS ARE A JOURNEY	Prime Minister Harold Macmillan said tonight he and President Kennedy viewed the forthcoming Moscow nuclear test ban talks as the biggest step that can be taken to assure world peace

Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	He said agreement between East and West in the Moscow talks starting July 15 would simplify the solution of German danger–if there are danger–and make it easier to deal with the threat of Communist China entering the nuclear armament race
Conflict	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	The end of any hope of easing East-West tensions
Control	CONTAINER	NUCLEAR WEAPONS ARE MOVING ELEMENTS THAT MUST BE CONTAINED, CONTAINER + LINK SCHEMA	Wilson, who conferred with the Soviet leader in Moscow last month to ban the spread of nuclear weapons to beyond the four present nuclear powers
Agreement	JOURNEY	PATH SCHEMA, ATOMIC AGE IS A JOURNEY	A step forward was taken in recent correspondence with Mr. Khrushchev
Initial Pact; Call It Step Toward Easing 'War', 7/26/63 Chicago Tribune			
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	They hailed the agreement as a first step toward easing east-west cold war tensions
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	They hailed the agreement as a first step toward easing east-west cold war tensions
Agreement	JOURNEY	AGREEMENT IS CHANGE IN DIRECTION	The agreement ended more than five years of sometimes bitter negotiations by the world's major nuclear powers. The three nuclear powers also hinted at further progress that could herald a change in relations between the Soviet Union and the west
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION, AGREEMENT IS MOVEMENT	Gromyko then added that he hoped the agreement would lead to further steps to ease the cold war
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	At this point, Hailsham interrupted to say: We hope this is the beginning of many good things
Rusk Welcomed in Moscow, 8/4/63 Chicago Tribune			
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	United States Secretary of State Dean Rusk and British Foreign Secretary Lord Home arrived here today -to sign the partial nuclear test ban treaty with Russia on Monday Rusk hopes the treaty will be a turning point in the affairs of mankind
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	Rusk said the United States was determined to follow up the signing of the treaty with other steps to insure peace
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	Rusk said the agreement "would prevent the world from becoming more dangerous. We come here with a hope and a resolve to make the treaty a turning point in the affairs of mankind."
Agreement	CONTAINER	AGREEMENT IS BUILDING	We look forward to several days of good constructive work together

Control	LINK	CONTROL IS FREEZING	Rusk and Home are hoping to tackle such questions as measures against surprise attack, nondissemination of nuclear weapons, and perhaps the freezing or reduction of national military budgets
Big 3 Ministers See Wider Peace Accord, 8/4/63 Los Angeles Times			
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	Secretary of State Dean Rusk arrived in Moscow Saturday night for the signing of the partial test-ban treaty and promptly joined the British and Soviet foreign ministers in expressing hope the accord leads to bigger East-West agreement
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY	We come here with hope and with the resolve to try to make this treaty a turning point in the affairs of mankind, Rusk said
Agreement	MORALITY	AGREEMENT IS PROFIT	Khrushchev wants the test ban-treaty to show off the first solid fruits of his co-existence policy that Peking violently rejects
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	From here we hope to go on to other agreements and our countries…we look forward to several days of good and constructive work together
Agreement	CONTAINER	AGREEMENT IS BUILDING	From here we hope to go on to other agreements and our countries…we look forward to several days of good and constructive work together
Control	LINK	CONTROL IS CEASE	Thus began the second act of a treaty negotiation that ended last week with initiating of the American-British-Soviet agreement to end testing of nuclear weapons in the atmosphere, outer space and underwater
Nations Sign Nuclear Pact in Moscow, 8/6/63 Chicago Tribune			
Agreement	JOURNEY	ATOMIC AGE IS A JOURNEY, PEACE IS A DESTINATION	The United States, Britain, and the Soviet Union signed a treaty banning most nuclear tests today and hailed it in a statement as an important first step toward world peace
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	This project has roused a storm of opposition in many countries and in the United States Senate
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Rusk called the treaty "a good first step" but only a step, and one that did not of itself end the threat of nuclear war."
Agreement	MORALITY	PEACE IS A BUSINESS	History will eventually record how we deal with the unfinished business of peace
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	It said their governments the partial ban on testing as an important initial step towards the lessening of international tension and the strengthening of peace

Agreement	FORCE DYNAMIC	THE US-RUSIA ARE FORCES IN TENSION	It said their governments the partial ban on testing as an important initial step towards the lessening of international tension and the strengthening of peace
A-Test Treaty Signed, 8/6/63 Washington Post			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Britain, the United States and the Soviet Union signed a treaty banning most of nuclear test today and hailed in a communiqué as an important first step towards world peace
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Russ called the treaty a good first step, but only one step, and one that did not itself end the threat of nuclear war
Agreement	MORALITY	PEACE IS A BUSINESS	History will eventually record how we deal with the unfinished business of peace, but each of our government can and will play an important role in determining what future historians will report
Agreement	JOURNEY	AGREEMENT IS A JOURNEY, PEACE IS A DESTINATION, WAR IS A DESTINATION	I have said many times already and would like to repeat that in present conditions the choice is between peaceful coexistence and world thermo-nuclear war
Agreement		THE US AND RUSSIA ARE ACTORS	History will eventually record how we deal with the unfinished business of peace, but each of our government can and will play an important role in determining what future historians will report
TEST BAN TREATY SIGNED IN MOSCOW, 8/6/63 The New York Times			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Each stressed the theme that the treaty in which the world's three most powerful Government pledge to refrain from further contaminating the air and the ocean with nuclear tests, was merely a first step
Agreement	FORCE DYNAMIC	AGREEMENT IS A JOURNEY; FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	Each pledged that his government and his nation was intent on taking further steps toward easing world tension and creating the conditions for lasting peace
Agreement	JOURNEY	AGREEMENT IS A JOURNEY, PEACE IS A DESTINATION	It said their governments regarded the partial ban on testing as an important initial step and hoped that further progress toward peace would be achieved
Agreement	MORALITY	AGREEMENT IS AGRICULTURE; AGREEMENT IS PROFIT	Senator Aiken described the treaty as a seed from which a fine tree could grow and from which we can expect wonderful fruits
A-Pact Hailed as Peace Step, 8/6/63 Los Angeles Times			

Agreement	JOURNEY	AGREEMENT IS A NEW ERA	A new era in West-East relations dawned Monday with the United States, the Soviet Union and Britain pledging solemnly to end nuclear explosion in the atmosphere, outer space, and under water
Agreement	JOURNEY	AGREEMENT IS A JOURNEY, PEACE IS A DESTINATION	A communiqué from the Big Three powers hailed the pact as an important first step toward world peace
Agreement	JOURNEY	AGREEMENT IS A JOURNEY; FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION, PEACE IS A MUSCLE	The communiqué issue immediately afterwards, said that the three powers agreed an important initial step towards the lessening of international tension and the strengthening of peace, and have stressed hope that further progress would be achieve toward that end
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The success achieved at the Moscow talks must be developed, he said. The next step, in our opinion, should be to conclude a non-aggression pact between the member of the NATO and the Warsaw Treaty
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	The nuclear powers have reached agreement among themselves
Text of President's Remarks on Test Ban Treaty, 7/27/63 The New York Times			
Control	LINK	CONTROL IS CEASE	For these nations, too, and all nations, have a stake in limiting the arms race, in halting the spread of nuclear weapons and in breathing air that is not radioactive
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	Yesterday, a shaft of light cut into the darkness. Negotiations were concluded in Moscow on a treaty to ban all nuclear tests in the atmosphere, in outer space and under water. For the first time, an agreement has been reached on bringing the forces of nuclear destruction under international control
Agreement	JOURNEY	AGREEMENT IS A NEW ERA	Nuclear test ban negotiations have long been a symbol of East-West disagreement. If this treaty can also be a symbol - if it can symbolize the end of one era and the beginning of another– if both sides can by this treaty gain confidence and experience in peaceful collaboration–then this short and simple treaty may well become an historic mark in man's age–old pursuit of peace
Agreement	CONTAINER	AGREEMENT IS BUILDING	A document which may mark an historic and constructive opportunity for the world deserves an historic and constructive debate
Agreement	JOURNEY	PEACE IS A DESTINATION	My fellow Americans let us take that first step. Let us, If we can, step back from the shadows of war and seek out the way of peace
ATOM TEST BAN HAILED AS BIG STEP TO PEACE, 7/27/63 Chicago Tribune			

Agreement	JOURNEY	AGREEMENT IS JOURNEY	The three-nation partial nuclear test ban agreement was welcomed in many western, eastern, and nonaligned countries today as a first step leading to possible settlement of other east-west issues
Agreement		MENTAL STATE IS PHYSICAL STATE	Moscow radio said the agreement creates an atmosphere favorable for solving other vexed questions
Agreement	FORCE DYNAMIC	AGREEMENT IS MOVEMENT, FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	A Yugoslav foreign ministry spokesman in Belgrade said that the test ban opened "considerable prospects" for further negotiations to break the cold war deadlock
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Paul-Henri Spaak, Belgian foreign minister, said the agreement was evidence of a "new spirit" and must be considered as a first step leading to other agreements on the road to disarmament
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Paul-Henri Spaak, Belgian foreign minister, said the agreement was evidence of a "new spirit" and must be considered as a first step leading to other agreements on the road to disarmament
Robert Kennedy Urges Halt to Nuclear Spread, 6/24/65 The New York Times			
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	The world must move quickly beyond the test ban treaty with new efforts to halt the spread of nuclear weapons
Control	LINK	CONTROL IS CEASE	The world must move quickly beyond the test ban treaty with new efforts to halt the spread of nuclear weapons
Control	LINK	CONTROL IS CEASE	The need to halt nuclear weapons must be of central priority in the American policy
Agreement	JOURNEY	PEACE IS A JOURNEY	If we are to leave our children a planet in which to live safely, to fulfill the bright promise of their lives, we must resume the journey towards peace
Control	LINK	CONTROL IS FREEZING	Freezing of US and Russian stockpile at their present level
Nuclear Freeze Would Be a Pep Pill for the World, 5/12/67 Los Angeles Times			
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	Sorrows across the Pacific have obscured a peaceful possibility of far more enduring importance that is coming to a head across the Atlantic, I mean, the non-proliferation treaty, or NPT, to curb the spread of nuclear weapons.
Control	LINK	CONTROL IS FREEZING	Signature will bring intense pressure on the Big Two to put a freeze on development on strategic weapons–a process already endangered in the discussion on the anti-ballistic missiles
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	A freeze would, in turn, take the premium off testing nuclear weapons, thus opening the way for a completion of the test-ban treaty to include underground tests

Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Big Two agreement would set in motion a process likely to change for the better the whole climate of international affairs
Agreement	JOURNEY	AGREEMENT IS A JOURNEY; AGREEMENT IS AN MOVING OBJECT (CAR)	If the Russians accept the provision, then the treaty will be over the hill.
Russ to Take Nuclear Lead, Expert Says, 3/25/68 Chicago Tribune			
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	Russ to Take Nuclear Lead, Expert Says
Conflict	FORCE DYNAMIC	ACHIVEMENT IS FREEDOM, POWER IS MORE	The Russians have achieved nuclear parity with the unites states and will have superiority by the end of this year or early 1969
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	A member of the armed services committee told the conference that the united states must maintain nuclear superiority. This country cannot accept parity, because a possible first strike by Russia would destroy our retaliatory capability
Conflict	FORCE DYNAMIC	ACHIVEMENT IS FREEDOM, POWER IS MORE	Both the Russians and the United States are developing multiple warheads for their missiles but there are indications that the United States is lagging behind
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	Both the Russians and the United States are developing multiple warheads for their missiles but there are indications that the United States is lagging behind
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	The supreme necessity, Posony contended, is for the united states to regain and maintain a substantial lead in sheer number of missiles, so that Russia could not knock out our retaliatory capability in a first strike
Efforts to Curb Nuclear Arms Race Must Continue, 12/17/68 Los Angeles Times			
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	Attempts to hold down the nuclear arms race are running into new trouble from several directions
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	Efforts to Curb Nuclear Arms Race Must Continue
Control	JOURNEY	AGREEMENT IS A JOURNEY	At worst, it may be an illusion which would dull other drives toward real arms control until, like disarmament efforts between the two world wars, it is too late
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	The argument goes on to say that the United States can afford a missile race much better than Russia.
Conflict	JOURNEY	ATOMIC ENERGY IS A PATH	The obstacles should make it that much clearer that there is no more time for the United States to lose
SALT: End of Deadly Atom Game? 11/16/69 Los Angeles Times			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The strategic arms limitation talks which open here Monday between the united States and the Soviet union are truly a small step for man which could end in a great leap forward for mankind

Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Nevertheless, it goes without saying that the very fact of the Helsinki meeting, the fact of this first small step, already constitutes the most favorable development since the nuclear arms race began
Conflict	FORCE DYNAMIC	ATOMIC ENERGY IS A PATH	And there is scientific despair at going on and on with the unending spiral of development of man's destruction, a capacity which is quite unlimited if total self-destruction is indeed to be man's destiny
Conflict	PERSONIFICATION	THE WORLD IS A PERSON, PROBLEMS IS SUFFOCATION	But at least a process has begun, and the world can breathe a little more easily simply because the two great powers are here at least
SALT's Historic Beginning, 11/16/69 The New York Times			
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	The Strategic Arms Limitation Talks (SALT) that open in Helsinki tomorrow represent the first serious Soviet-American effort to curb their rivalry in nuclear missiles
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	These risks are 'manageable, insurable and reasonable ones to run," Secretary of State Rogers said last week, emphasizing that they seem less dangerous than the risks of open-ended arms competition-risks about which we perhaps have become somewhat callous
Conflict	FORCE DYNAMIC	ATOMIC ENERGY IS A PATH	Testing of MIRV multiple warheads has been pushed forward to a point where every week makes it more unlikely that the new arms spiral can be headed off
Control	LINK	CONTROL IS FREEZING	Everything points to the advisability of an early agreement in principle to freeze the nuclear balance where it now stands
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	The Secretary of State spoke against competitive accumulation of weapons, "unrestrained" continuation of the strategic arms race, uncontrolled acquisition of still more weapons and an "open-ended" arms competition
U.S.-Soviet Arms Talks Open Today, 11/17/69 Washington Post			
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	More than 24 years after the atomic bomb fell on Hiroshima the two superpowers in today's world will open discussions here Monday on how to curb the nuclear arms race
Conflict	FORCE DYNAMIC	SOVIET NUCLEAR IS A GROWING FORCE	But it is the rapid growth of the Soviet nuclear force since the present gray leadership in the Kremlin ousted Nikita Khrushchev, that has the United States worried
Conflict	LINK	CONTROL IS CEASE	But not until now were the two nations in a position of rough parity in nuclear weaponry, a position that both sides appear to agree is fundamental to halting the spiral

Conflict	FORCE DYNAMIC	RUSSIA IS A PERSON MOVING	The point is that Americans want to know where the Kremlin is heading
Conflict	LINK	CONTROL IS CEASE	But not until now were the two nations in a position of rough parity in nuclear weaponry, a position that both sides appear to agree is fundamental to halting the spiral
Arms Talks Start In Cordial Mood, 11/18/69 Washington Post			
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The United States and the Soviet Union formally opened talks to limit strategic armament today with statements in which both sides talked about "mutually acceptable" measures first to limit and then to reduce their nuclear arsenals
Control	JOURNEY	CONTROL IS A JOURNEY	The utmost importance and urgency ... For mankind as a whole These talks will largely determine, not only the prospects of further progress in the field of disarmament and arms control, but also the future trend of international relations as a whole
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	He described "curbing of the strategic arm race, limitation and subsequent reduction of such an armament' as an important goal
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	That is why we seek progress toward the solution of the dangerous political issues of our day
Russians Pleased With SALT Talks, 12/13/69 Washington Post			
Agreement	FORCE DYNAMIC	AGREEMENT IS END OF FORCIBLE RELATIONSHIP	Two of the five US delegates to the strategic arm limitation talks here left for home today as Communist diplomats indicated that Russia was extremely satisfied with the discussion now fast winding up
Agreement	MORALITY	MENTAL STATE IS PHYSICAL STATE	Communist officials said the soviet union was extremely satisfied with the substantial issues considered in the talks, as well as with the very businesslike, yet cordial, atmosphere of the discussion
Agreement	MORALITY	AGREEMENT IS BUSSINESS	Communist officials said the soviet union was extremely satisfied with the substantial issues considered in the talks, as well as with the very businesslike, yet cordial, atmosphere of the discussion
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	If the good relationship and serious intentions shown here can be carried over to the next phase of the talks
Control	LINK	CONTROL IS BOUNDING	Good chance of progress toward limiting and eventually reducing the nuclear arsenal
U.S., Russia Agree On Full SALT Talks, 12/23/69 Washington Post			

Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	The United States and the Soviet Union broke a deadlock in the strategic arms limitation talk today and agree to start full scale negotiations on curbing the strategic nuclear arms race will begin next April 16
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	But the tone of all that was said, jointly and separately was one of hope that some form of agreement can be reached
Agreement	PERSONIFICATION	AGREEMENT IS A PERSON	The preliminary talks produced agreement that the present rough parity […] should not be upset
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	We hope […] will be able to agree upon limitations on their respective strategic arsenals
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	We have been aware that curbing the strategic arm race would serve the vital interest of the soviets and American peoples and all nations of our planet
U.S., Russ Set Full Arms Talks, 12/23/69 Chicago Tribune			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The United States and the Soviet Union broke a deadlock in the strategic arms limitation talks today and agreed to start negotiations in April 16 in Vienna
Agreement	JOURNEY	AGREEMENT IS A PERSON	It was broken by a compromise: the United States got its first choice, the Austrian capital the Russians got a promise that the conference would come back to Helsinki
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	Vladimir S Semenov the chief soviet delegate pledge to strive at the subsequent negotiations toward a mutual acceptable agreement
Agreement	MORALITY	AGREEMENT IS BUSSINESS; MENTAL STATE IS PHYSICAL STATE	The two sides expressed satisfaction with the businesslike atmosphere and the process being made
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	Curbing the strategic arms race would serve the vital interests of the soviet and American people and all peoples on our planet."
FULL ARMS TALKS TO OPEN IN VIENNA, 12/23/69 The New York Times			
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	The United States and the Soviet Union agreed today to begin full-scale negotiations in. Vienna April 16 in an effort to impose some restraint on their rivalry in strategic nuclear weapons
Agreement	MORALITY	AGREEMENT IS BUSSINESS	Both were concerned that the quiet, businesslike nature of their talks so far might be colored and eventually dispelled by the propaganda that attends the Disarmament Conference
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Two hours after the Semenov note the Americans and Russians were meeting in fully session in the Soviet Embassy, and agreed quickly to start the talks April 16 in Vienna

Agreement	JOURNEY	AGREEMENT IS A JOURNEY	"The main task is, of course, still ahead of us", be said. "We profoundly hope that in the course of the forthcoming negotiations the United States and the Soviet Union will be able to agree upon limitations on their respective strategic arsenals
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	The Russians were then not prepared then to move because of the impending elections in West Germany.
Arms Talks Show Signs of Accord, 5/21/70 Los Angeles Times			
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	The shape of a possible Soviet-American agreement to curb the nuclear arms race is now beginning to emerge
Agreement	CONTAINER	CONTROL IS CEASE	The shape of a possible Soviet-American agreement to curb the nuclear arms race is now beginning to emerge
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	A critical point in the potential agreement, the highly limited rival ABMs since it would mean junking practically al the President's safeguards
Control	LINK	CONTROL IS FREEZING	An in-between plan, apparently a simple minimum freeze at current levels ICBMs without regard of multiple warheads
Control	LINK	CONTROL IS PHYSICAL CUT	Then, should be an agreed cut in the number of rival missile launchers
U.S. AND RUSSIANS PUSH ARMS TALKS, 5/22/70 The New York Times			
Control	LINK	CONTROL IS FREEZING	The United States and the Soviet Union are discussing an agreement on the control of strategic arms that would impose a freeze on the current level of offensive missiles and would limit anti-ballistic-missile defense to the protection of Washington and Moscow
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The United States and the Soviet Union are discussing an agreement on the control of strategic arms that would impose a freeze on the current level of offensive missiles and would limit anti-ballistic-missile defense to the protection of Washington and Moscow
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The United States was said to have offered a range of proposals for limiting offensive weapons. The most comprehensive of which would prohibit multiple missile warheads, or MIRV's, as well as any antiballistic missile systems, or ABM's
Control	LINK	CONTROL IS FREEZING	As an alternative, therefore, the United States was said to have offered a proposal not requiring on-site inspection that would freeze land-based and submarine-based missiles on each side
Slow but Significant Progress Indicated at Arms Talks in Vienna, 5/23/70 The New York Times			
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	Slow but Significant Progress Indicated at Arms Talks in Vienna

Agreement	JOURNEY	AGREEMENT IS MOVEMENT	American and Soviet negotiators met today for two hours–the longest session to date–amid indications that slow but significant progress was being made in the five-weeks-old Vienna talks on the limiting of strategic arms
Agreement	MORALITY	AGREEMENT IS BUSSINESS	Informed sources said after the meeting that the delegates were 'getting alone with their work' and that the meeting was serious, businesslike, and free of polemics
Control	LINK	CONTROL IS FREEZING	A possible agreement that would include a freeze of the present number of land-and sea-based intercontinental missiles and the limiting of antiballistic missiles to those to project Washington and Moscow
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	Secretary General Thang said that this was the most important first step toward preventing a possible uncontrollable escalation of the arm race
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	Secretary General Thang said that this was the most important first step toward preventing a possible uncontrollable escalation of the arm race
U.S. Weighs Soviet Nuclear Intentions, 5/24/70 Los Angeles Times			
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	There is parity at arms talks but Specter of Russian Supremacy Haunts Washington
Conflict	FORCE DYNAMIC	US-RUSSIA RELATIONSHIP IS WAR, LINK SCHEMA	The Soviets know. Presumably, they cannot unleash a nuclear attack against the United States without getting a fatal salvo in return
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	MISSILE RACE-This chart shows the degree to which Russia has overcome U.S. missile superiority since 1965. Nuclear balance today hangs only on America's superiority in bomber-based weapons
Conflict	THREAT	MISSILES ARE A THREAT	Larids said the Soviets need warheads of several megatons for one reason only: to have the power to destroy Minuteman missiles in their 80-feet deep concrete siloes
Conflict	THREAT	POWER IS MORE	But one five-megaton warhead with an accuracy of one-forth mile would have a kill probability of about 95%, the Pentagon said
Undercutting SALT, 7/30/70 The New York Times			
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	After successfully pressuring Congress to approve the first installment of a 25 billion program of new strategic weapons, thus reviving the arms race in fields not limited by the SALT I pacts

Conflict	FORCE DYNAMIC	MOVEMENT SCHEMA, CONFLICT SCHEMA	The Defense Secretary told the Senate and the Services Committee that he would recommend retaliatory steps, such as mobile launchers for Minuteman intercontinental ballistic missiles, it the Soviet Union installed MIRV multiple warheads in its big SS 9 missiles and threatened the silo-based Minuteman
Conflict	THREAT	POWER IS MORE MISSILES	The Defense Secretary told the Senate and the Services Committee that he would recommend retaliatory steps, such as mobile launchers for Minuteman intercontinental ballistic missiles, it the Soviet Union installed MIRV multiple warheads in its big SS 9 missiles and threatened the silo-based Minuteman
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	If the Soviet Union installed MIRV multiple warheads in its big SS 9 missiles and threatened the silo-base Minuteman force
Conflict	FORCE DYNAMIC	ACHIEVING IS BUILDING	The resulting uncertainties would impel the United States to overbuild its own forces in compensation, further stimulating the Soviet build up
Summit: SALT, Trade, Space, 5/21/72 Washington Post			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	As the President embarked on his ambitious venture in East-West diplomacy the subject rated least susceptible to agreement in Moscow that anyone's prestige has been grievously damaged by the strange combination of actions
Agreement	JOURNEY	AGREEMENT IS A NEW ERA	The United States and the Soviet Union are embarked on what the Nixon administration calls the prospect of a "new era in international relations" while American mines block Russian shipping from the harbors of North Vietnam
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Is this the road toward entrapment for either the United States or the Soviet Union? President Nixon and Brezhnev evidently are convinced it is not
Control	LINK	CONTROL IS FREEZING	The United States and the Soviet Union could proclaim the first quantitative "freeze" on the nuclear arms race
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The nuclear missiles to be limited at the summit will continue to be aimed at each other. The other agreements are intended to reinforce competing societies, not embrace them in partnership
Nuclear Accord Expected, 5/23/72 Los Angeles Times			
Control	LINK	CONTROL IS BOUNDING	President Nixon and Soviet leaders appeared likely to sign an agreement on Friday limiting strategic offensive and defensive nuclear weapons after 2 and a half years of hard negotiations, official U.S. and Soviet sources predicted today

Agreement	JOURNEY	AGREEMENT IS A DESTINATION	The chief U.S. negotiator In Helsinki, Gerard C. Smith, is scheduled to fly to Moscow on Thursday, an American official told UPI, and it appeared quite likely that an initial SALT agreement - a prize goal of the Nixon summit this week-would be ready for signing on Friday
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The forecast was made after Mr. Nixon and Leonid I. Brezhnev, the Soviet Communist Party general secretary, met privately In the Kremlin for two hours in an afternoon session devoted entirely to the subject or the strategic arms limitation talks which still are underway in Helsinki
Agreement	FORCE DYNAMIC	THE US-RUSSIA ARE WORKING TOGETHER	The first day of the summit was capped by the signing of two Soviet-American agreements calling for cooperation in fighting cancer, heart disease and pollution
Agreement	JOURNEY	AGREEMENT IS FREE MOVEMENT	[Vietnam] that both sides were trying to tiptoe around the subject in order not to hamper progress on other projects
Summit Pace Eases; Sea Pact Signed, 5/26/72 Washington Post			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The intense pace set by the participants in the Moscow summit meeting during its first three days slackened today
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The slow pace was a sharp change from yesterday hectic series of meetings
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The slow pace was a sharp change from yesterday hectic series of meetings
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	In a statement released to press, MR. Nixon called the pact, the first high-level military agreement between our two countries since the end of World War II. He said it shows the intention of both sides to see an end to confrontation
A First Step, but a Major Stride, 5/27/72 The New York Times			
Control	LINK	CONTROL IS BOUNDING	The nuclear age gained its first strategic arms limitation treaty in the Kremlin last night
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	It is a major step forward in the already long history of nuclear arms negotiation. But it is also only a beginning
Control	LINK	CONTROL IS FREEZING	The significance of the treaty lies in that it makes the freeze legally binding
Agreement	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	In sum, the fewer the available defenses, the more vulnerable each superpower remains to massive retaliation. The more vulnerable it remains the fewer the temptations to risk an attack
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	In effect. The United States and the Soviet Union are on the paradoxical path of increasing negotiation and collaboration in the art of assuring each other's vulnerability to attack

Agreement	FORCE DYNAMIC	ACHIEVING IS BUILDING	The energetic Soviet build-up of recent years
Light Through 'The Cloud Of Doom': Arms Pact, 5/28/72 The New York Times			
Control	LINK	CONTROL IS CEASE	The Nixon Administration's penchant for hyperbole left it without adequate words last week for the historic agreement to curb the nuclear arms race that was reached at the Moscow summit
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	It was the difficulty of arriving at an offensive-missile package that delayed the negotiations and almost forced a cancellation of the plans to cap the summit with a strategic arms limitation (SALT) agreement
Agreement	JOURNEY	AGREEMENT IS A JOURNEY, THE END OF THE RACE IS THE DESTINATION	At least the first steps have been taken to reduce the risk of the nuclear arms race that has hung like a cloud of doom over the world since Hiroshima
Conflict	THREAT	ATOMIC CONFLICT IS A THREAT	At least the first steps have been taken to reduce the risk of the nuclear arms race that has hung like a cloud of doom over the world since Hiroshima
U.S. Traded SALT Power for Sweet Peace, 8/2/72 Los Angeles Times			
Agreement	MORALITY	AGREEMENT IS BUSSINESS	In sheer terms or advantage and disadvantage, the Russians got the better of the strategic arms limitation talks (SALT) bargaining
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	In strategic terms the Americans had little choice. They had allowed the Russians to pull ahead in offensive weapons because they were themselves concentrating on more sophisticated multiple independently targeted reentry vehicles (MIRS-VS) which gave them more warheads, and they meant to go on with them
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A STORM	As a conservative, Mr. Nixon could ride out the storm better than a liberal could. And it is worth riding out
Control	LINK	CONTROL IS A MACHINE	Once the nuclear nations commit themselves to a continuing series of agreements, the machinery for enforcing them can be contrived.
Control	LINK	CONTROL IS A JOURNEY	Habit of cutting down on the weapons, as a first step toward giving them up
Superpowers Head for Geneva for New A-Weapons Talks, 11/19/72 Washington Post			
Control	LINK	CONTROL IS FREEZING	The second phase of the Strategic Arms Limitation Talks begins Tuesday with the goal of transforming the five year freeze on offensive weapons into a permanent treaty that would harness the continuing arms race
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Smith is understood have agreed to go to the first round of SALT

Control	COMPETITION	ATOMIC ENERGY IS COMPETITION	Two basic objectives: reduction of strategic arms and a brake on the qualitative arms race that would rule out the billion dollar Trident submarine and the multi-million dollar B-1 bomber now being developed
Control	LINK	CONTROL IS FREEZING	They are aimed at lowering the level of terror or at least freezing it where it is
Agreement	CONTAINER	CONTAINER SCHEMA	The results of SALT II will be seen as an indication of how deep or how superficial that detente is.
Second Round of Arms Talks Will Open Today, 11/21/72 Los Angeles Times			
Agreement	MORALITY	MENTAL STATE IS PHYSICAL STATE	The second round of the Strategic Arms Limitation Talks be-tween the United States and the Soviet Union begins this morning in Geneva amid an atmosphere of cordiality and guarded optimism
Control	LINK	CONTROL IS FREEZING	The second major agreement reached was to place a temporary five year freeze on the number of intercontinental missiles, basically around the current number then in existence
Control	LINK	CONTROL IS BOUNDING	The first order of SALT II business is expected to be the establishment of a joint commission, approved in the SALT I agreement, of American and Russian technical advisers to supervise the defensive ABM limit, and the offensive ICBM force
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	This is because, increasingly, the disarmament experts are moving into the area of the quality and nature of nuclear armament rather than simply the quantity
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	Thus, it may well become more difficult to reach an agreement vitally important matters as multiple warheads, in which the United States has a vast superiority
U. S., Russ Open New SALT Talks, 11/22/72 Chicago Tribune			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The second phase of SALT between United States and Soviet Union began today
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Smith read a letter sent to him by President Nixon which described the two agreements produced by the first phase of the SALT talks as a milestone in Soviet American relations and in the effort to create a more peaceful world
Control	LINK	CONTROL IS FREEZING	One of the agreements limits the deployment and quantity of antiballistic missile systems, and the other imposes five-year freeze on the number of offensive missile launchers
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	We have taken the first step and the foundation for new agreements has been created

Agreement	CONTAINER	AGREEMENT IS BUILDING, CONTAINER SCHEMA	We have taken the first step and the foundation for new agreements has been created
Control	LINK	CONTROL IS FREEZING	This would replace the interim freeze and complement the treaty limiting the deployment and quantity, of antiballistic missile systems
Nixon Voices Hope For Gains at SALT, 11/22/72 Los Angeles Times			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	"As you and your Soviet colleagues begin a new round of discussions, you have with you the hopes of all the American people-and indeed the hopes of all mankind."
Agreement	CONTAINER	AGREEMENT IS BUILDING, CONTAINER SCHEMA	"You face a task," the President said, "which in many respects is even more complex and more difficult (than SALT I talks), for both sides will now be obligated to make long term commitments in a permanent agreement, to a stable strategic relationship for this decade and beyond."
Agreement	MORALITY	AGREEMENT IS BUSSINESS	The first order of business, informed sources say, is to set up a permanent commission comprising technical experts from both sides to supervise the agreements reached in SALT 1
Control	LINK	CONTROL IS FREEZING	The interim agreement was to set a five-year freeze at current levels in the number of long-range offensive missiles. A major effort in SALT II will be to reach a permanent treaty on offensive weapons
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	The interim agreement was to set a five-year freeze at current levels in the number of long-range offensive missiles. A major effort in SALT II will be to reach a permanent treaty on offensive weapons
U.S. and Soviet Open New Arms Talks, 11/22/72 The New York Times			
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	The United States and the Soviet Union opened talks today on reaching comprehensive and permanent agreement to limit strategic nuclear weapons
Agreement	FORCE DYNAMIC	AGREEMENT IS A JOURNEY; FORCE DYNAMIC SCHEMA: THE US-RUSIA ARE FORCES IN TENSION	It would also lead to a significant decline in tensions between the world's major nuclear nations
Agreement	CONTAINER	AGREEMENT IS BUILDING, CONTAINER SCHEMA	They also included a five-year interim agreement on offensive weapons, setting ceilings on fixed, land based launchers and submarine-based missiles
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	While this series of negotiations will go on to perhaps three or four years, the first tangible outcome could come before Christmas
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA	Both sides have agreed to allow the other to monitor the May accord by photoreconnaissance satellites
A Long, Long Road Ahead: SALT, 11/27/72 The New York Times			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	A Long, Long Road Ahead: SALT

Control	LINK	CONTROL IS FREEZING	A reduction in the stockpiles of terror, thus going well beyond the "freeze" in arsenals outlined in their initial accords last May
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	A new round of strategic arms limitation talks (SALT) between the United States and the Soviet Union opened here last week with the primary goal of making permanent and comprehensive an interim agreement that limits offensive weapons
Conflict	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	A pact of indefinite duration which restricted defensive antiballistic missiles to 200 on each side, thus leaving both sides vulnerable to attack
Control	LINK	CONTROL IS AN ANIMAL THAT CAN BE CURBED	The talks will also range over the possibility of curbing the quality or armaments, the chances of restraints on antisubmarine weapons yet to be developed, and the old nemesis or verification
Russ Seen Leading in Nuclear Buildup: SOVIET BUILDUP, 3/4/74 Los Angeles Times			
Conflict	FORCE DYNAMIC	ACHIEVING IS BUILDING	The soviet union's buildup in nuclear weapons repeatedly forecasted for years, has now emerged as far more comprehensible than estimated just one year ago
Conflict	FORCE DYNAMIC	RUSSIA IS A PERSON FIGHTING, FIGHT SCHEMA	Could give them a fearsome power to knock out the United States Minuteman
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	Russia has apparently reached a position where it can rapidly catch up unless the race is negotiated to a stop in the coming months
Control	LINK	CONTROL IS AN OBJECT	The United States is believed to be placing to priority on achieving an agreement, which would place control on multiple warheads.
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The next step should be an effort to bring about mutual reductions in numbers of landbase ICBMs
U.S. and Soviet Are Closer To Pact on Atomic Blasting, 4/6/76 The New York Times			
Control	LINK	CONTROL IS BOUNDING	The United States and the Soviet Union expect to complete an agreement limiting both peaceful and military explosions to 150 kilotons "within the next several weeks" the White House and the State Department announced today
Control	LINK	CONTROL IS BOUNDING	The weapons limitation treaty was coupled by the two leaders to agreement on parallel restrictions on peaceful nuclear engineering explosions, still to be negotiated
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	It will be a real step in the direction of a comprehensible test ban, he asserted adding that the United States hopes the Soviet Union would eventually give up the idea of peaceful explosions
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	If anything, they moved faster in the last few months, he remarked adding, there were never any acrimonious periods

Conflict	FORCE DYNAMIC	RUSSIA IS A PERSON MOVING	It is our hunch the latest data might now the soviet union ahead in arms transfers, he said, attributing the shift to increased soviet arms exports to Middle East and African countries
U.S., Russia Sign Historic Nuclear Pact, 5/28/76 Los Angeles Times			
Control	LINK	CONTROL IS CEASE	The treaty on underground nuclear explosions for peaceful purposes would limit the size of such blasts
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	Ford called the pact, an historic milestone in the history of arms control agreements
Agreement	JOURNEY	AGREEMENT IS A JOURNEY, PEACE IS A DESTINATION	It is a significant step towards a stable and more peaceful world, Ford said
Control	CONTAINER	CONTAINER SCHEMA + LINK SCHEMA	Combined with earlier agreements, the treaty represents another link in the chain of measures geared to contain the growth or armaments, to achieve the goal of a total and general stoppage of nuclear weapons tests, Brezhnez said
Control	LINK	CONTROL IS BOUNDING	The peaceful explosions treaty will be presented to the Senate along with another Us-Soviet treaty limiting underground nuclear weapons tests
Carter Proposes Freeze on Building Atomic Weapons, 10/15/76 Los Angeles Times			
Control	LINK	CONTROL IS FREEZING	Jimmy Carter called Thursday night for American agreement with the Soviets on a quick freeze on construction of atomic weapons, followed by step by step mutual reduction in nuclear arsenal
Control	LINK	CONTROL IS BOUNDING	We must move to secure agreement with the soviet union on a quick freeze on the number of atomic missiles and warheads
Control	LINK	CONTROL IS FREEZING	We must move to secure agreement with the soviet union on a quick freeze on the number of atomic missiles and warheads
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	This speech should be considered a step forward from his precious position of advocating a mutual five-years moratorium on nuclear tests
Control	LINK	CONTROL IS CEASE	His plans for stopping the proliferation of nuclear weapons
U.S.-Russian Arms Debate At Crossroads, 2/20/77 Washington Post			
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	U.S.-Russian Arms Debate At Crossroads
Conflict	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA	What are the drums saying? The Russians are coming. The Russians are getting stronger. The Russians are thinking the unthinkable. Nuclear war? Yes
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	A flute against drums. The music metaphor roughly describes the political gamble with which President Cartel' has launched his new administration.

Conflict	FORCE DYNAMIC	PATH SCHEMA, ATOMIC AGE IS A JOURNEY	In the late 1950s, it was the bomb gap, followed closely by the missile gap, then the mega tonnage gap, and the anti-missile missile gap,
Conflict	FORCE DYNAMIC	ACHIEVING IS BUILDING	The soviets are indeed building up their forces
Russ Agree to Total Ban on Nuclear Tests, 11/2/77 Los Angeles Times			
Control	LINK	CONTROL IS CEASE	Soviet President Leonid I. Brezhnev, in a concession to the U.S. position, today offered a ban on all peaceful and military nuclear explosions and proposed an end to production of nuclear weapons by all nations.
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	We state that we are prepared to reach agreement on a moratorium covering nuclear explosions for peaceful purposes along with a ban on all nuclear weapon tests
Agreement	JOURNEY	AGREEMENT IS A JOURNEY; A TREATY IS THE DESTINATION	This important step on the part of the U.S.S.R. is properly appreciated by our partners at the negotiations and that the road will thus be cleared to concluding a treaty
Agreement	JOURNEY	AGREEMENT IS A DESTINATION	We made a mayor step toward a comprehensive test ban agreement
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The United States is "willing now" to reduce its arsenal of nuclear arms
Don't alter SALT II: Brezhnev, 6/18/79 Chicago Tribune			
Agreement	CONTAINER	AGREEMENT IS BUILDING	If the treaty was changed, Brezilnev told, "the entire structure might then collapse, entailing grave and even dangerous consequences for our relations and for the situation in the world as a whole,"
Agreement	CONTAINER	AGREEMENT IS BUILDING	But Brezhnev, in a toast to Carter at a dinner in the Soviet Embassy, declared that "any attempt to rock this elaborate structure which has been so hard to build, to substitute any of its elements would be an unprofitable exercise.
Agreement		MENTAL STATE IS PHYSICAL STATE	Carter had described the dinner as worthwhile occasion and the atmosphere as "very friendly"
Agreement	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA	Blezhnev's warning overshadowed everything else on the busy second day of his summit with Carter, a day on which the two sides appeared to do more disagreeing than agreeing.
Conflict	FORCE DYNAMIC	ACHIEVING IS BUILDING	The official Soviet spokesman said his country would "not support" the stationing of a United Nations peacekeeping force In the Sinai Desert In connection with the recent Egyptian-Israeli peace treaty.
Carter Hails SALT II as a Pact for Peace, 6/19/79 Los Angeles Times			

Conflict	CONTAINER	CONFLICT IS AN OBJECT HANGING OVER	Presidents Carter and Leonid I. Brezhnev signed the SALT II treaty in solemn ceremonies here Monday, but hanging heavily over the historic occasion was an issue vexing to both leader–the US congress ratification
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The Soviet president, who earlier had warned that any changes or "backpedaling" in the treaty process could -have dangerous consequences, hailed the SALT II treaty as a document that "goes far beyond the SALT I agreement" that was signed by the two nations In 1972.
Agreement	JOURNEY	AGREEMENT IS A JOURNEY	The Soviet president, who earlier had warned that any changes or "backpedaling" in the treaty process could -have dangerous consequences, hailed the SALT II treaty as a document that "goes far beyond the SALT I agreement" that was signed by the two nations In 1972.
Control	CONTAINER	CONTAINER SCHEMA	The new agreement, which the United States and the Soviet Union negotiated for more than six years would establish an equal ceiling of 2-400 on numbers of strategic missile launchers-bombers, submarines and land based missile launchers-that both nations may deploy
Control	CONTAINER	CONTAINER SCHEMA	More would then be dismantled to come down to a ceiling of 2.250 in 1981
U.S. AND SOVIET SIGN STRATEGIC ARMS TREATY, 6/19/79 The New York Times			
Control	LINK	CONTROL IS BOUNDING	The Soviet leader, signed an arms control treaty today that for the first time limits both sides to the same maximum number of long range bombers and missiles
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	President Carter responded by saying that a decade of negotiations had taught that "a nuclear arms competition without shared rules, and without verifiable limits, and without a continuing dialogue, would be an invitation to disaster."
Agreement	CONTAINER	THE US IS A VULNERABLE HOUSE	Moreover, it helps us to respond much more effectively to our most pressing strategic problem, the prospective vulnerability in the 1980s of our land-based missiles
Agreement	CONTAINER	DETENTE IS A BUILDING	efforts to spread detente to all areas of the globe and the principles of responsibility and restraint in regional tensions
Agreement	JOURNEY	AGREEMENT IS MOVEMENT	progress made in two areas
Hill Hears Appeal: Carter Asks Hill Support, 6/19/79 Washington Post			
Conflict	THREAT	THE USE OF NUCLEAR WEAPONS IS SUICIDE	President Carter, only hours after leaving the Vienna summit conference, last night began his crusade for Senate passage of the new strategic arms limitation treaty with a pledge to maintain American military strength and a warning about the risks of "global suicide" in a nuclear age

Agreement	JOURNEY	AGREEMENT IS A JOURNEY	"It is a deliberate, calculated move we are making as a matter of self-interest-a move that happens to serve the goals both of security and of survival, that strengthens both the military position of the United States and the cause of world peace."
Conflict	COMPETITION	ATOMIC ENERGY IS COMPETITION	rejection of the treaty would lead to a costly now arms race and possibly "superpower confrontations."
Agreement	CONTAINER	ACHIEVING IS BUILDING	I believe that together we laid a foundation on which we can build a more stable relationship between our two countries
Conflict	THREAT	ATOMIC CONFLICT IS A THREAT	But this twilight peace, Carter added, "carries the ever-present possibility of a catastrophic nuclear war, a war that in horror and destruction and death would dwarf all the combined war of man's long and bloody history
Soviet Emphasizing Withdrawal Of Its Offer on Nuclear Weapons, 12/17/79 The New York Times			
Control	CONTAINER	LINK SCHEMA + CONTAINER SCHEMA	The Soviet Union was ready to reduce the number of medium-range nuclear vehicles deployed in its western regions if there would be no additional deployment of such forces in Western Europe
Conflict	THREAT	POWER IS MORE MISSILES	But now the Warsaw Pact, like NATO, seems certain to increase its own nuclear forces in Europe rather than freeze them before negotiations begin
Control	CONTAINER	LINK SCHEMA, CONTAINER SCHEMA	NATO will make a proposal on reducing nuclear and conventional arms in Central Europe at the East-West force reduction talks in Vienna on Monday.
Agreement		RELATIONSHIPS ARE CLIMATE	The entry into force of the Soviet American SALT II treaty can bring about a considerable improvement in the world political climate
Agreement		NEGOTIATION IS MACHINERY	Despite all this, a decree of the Communist Party Central Committee today said Moscow's "peace program" of negotiations with the West would continue

1980-1991

GLOBAL TOPIC	**CONCEPTUAL STRUCTURE**	**CONCEPTUAL METAPHOR**	**LINGUISTIC REPRESENTATION**
U.S. Sees 1982-83 as Period of Greatest Soviet Nuclear Threat, 4/13/80 Los Angeles Times			
Vulnerability	COMPETITION	ACHIEVEMENT IS MOVEMENT	The soviets achieved a strategic weapons advantage for 1975 to 1980
Vulnerability	JOURNEY	RUSSIA ACHIEVEMENT IS MOVEMENT	Carter obviously regards the Soviet move as a possible omen of wider and more sinister goals
Vulnerability	CONTAINER	ACHIEVEMENT IS BUILDING	The Soviets have now built a war machine far beyond any reasonable requirements for their own defense

Vulnerability	FORCE DYNAMIC	THE US IS A PERSON, FORCE SCHEMA	Because we were very much stronger than they at the outset of that period we retain at approximately equality of military power
Defense	CONTAINER	POWER IS MORE	(the US need to) increased the number of nuclear warheads more than tenfold
Deterrence to Soviets, 8/6/80 Chicago Tribune			
Defense	FORCE DYNAMIC	RUSSIA IS A MACHINE	President Carter has formally approved a refined nuclear strategy to deter a Russian attack by making the soviet-military industrial machine and leadership apparatus prime target for American retaliation, defense officials said
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	President Carter has formally approved a refined nuclear strategy to deter a Russian attack by making the soviet-military industrial machine and leadership apparatus prime target for American retaliation, defense officials said
Defense	THREAT	NUCLEAR ATTACK IS ARMAGGEDON	Basically, as one official put it, it makes clear that we have many more choices than Armageddon or surrender
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	the US has the ability and the intention to knock out the things the soviet value most, the official said
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	they say the new MX mobile missile is central in importance because it would be designed to survive even a major Soviet first strike back and destroy such a hard targets
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	the new cruise missile also is considered a critical weapon […] soviet helplessness to defend against such a weapon
How Much Terror for Deterrence? 7/28/80 The New York Times			
Defense	CONTAINER	THE US IS A CONTAINER RUSSIAN MISSILES CAN PENETRATE	America's 1,000 highly accurate warheads could stay attack from any quarter and extend a nuclear umbrella to allies around the globe
Defense	CONTAINER	THE US IS A CONTAINER RUSSIAN MISSILES CAN PENETRATE	Since many Soviet weapons are larger, the Pentagon wants a heavy missile, such as the MX, although smaller weapons could also penetrate enemy missile silos. Why? "Missile envy," one Pentagon consultant explains.
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	A pinch of nuclear punch is as good as a pounding
Defense	CONTAINER	POWER IS MORE	There is no disputing that Soviet missile forces have grown larger than U.S. forces and potentially more threatening, nor that the Soviets have a vastly large conventional armed force than the United States
End	JOURNEY	AGREEMENT IS A JOURNEY	Triangular detente could also pave the way to a new economic order, one that gave a larger role to nonnuclear powers such as West Germany, Japan, Saudi Arabia and Brazil.
Changes in U.S. Nuclear Strategy, 8/14/80 Los Angeles Times			

Vulnerability	JOURNEY	THE ATOMIC AGE IS A JOURNEY	The United States is heading into a period of prolonged difficulty with the Soviet Union who near US security could be in jeopardy
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Less emphasis on retaliating against Soviet' cities in the event of an attack and more emphasis than in the past on knocking out Soviet military forces and political and military leadership centers in the initial phase of a conflict
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	The United states is taking a step toward a war fighting strategy in part because it thinks the Soviet Union has one
Defense	CONTAINER	BETTER IS NEW, POWER IS MORE	Sources say that part of the hidden agenda behind the meaning of the new directive is to build a case for the new multibillion-dollar MX mobile missile
Defense	CONTAINER	THE US IS A BUILDING/CONTAINER	MX is supposed to be so accurate and invulnerable to a Soviet first strike, and because it is based on land and therefore easy for a president to control, it is vital to the new strategy.
Soviet Ability to Wipe Out U.S. Missile Silos Told, 8/20/80 Los Angeles Times			
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Soviet Ability to Wipe Out U.S. Missile Silos Told
Vulnerability	THREAT	RUSSIAN POWER IS A THREAT TO THE AMERICAN FORCE	soviet military advantages in weapons power, numbers and technology could in the future threaten the survivability of each component of our strategic force
Vulnerability	THREAT	RUSSIAN POWER IS A THREAT TO THE AMERICAN FORCE	his statement appeared to make the Soviet threat to the US Minuteman ICBM force more immediate than his forecast
Defense	CONTAINER	POWER IS AMOUNT	Brown expressed that the controversial plan for 200MX missiles, which would be shuttle among about 4,600 shelters in remote western valleys, is highly important for preserving the long-term strategic balance
Defense	FORCE DYNAMIC	DETERRENCE SCHEMA	This evolution in our doctrine enhances deterrence and reduces the like hood of nuclear war, Brown said
BROWN SAYS ICBM'S MAY BE VULNERABLE TO THE RUSSIANS NOW, 8/20/80 The New York Times			
Vulnerability	CONTAINER	THE US IS A BUILDING/CONTAINER	Secretary of Defense Harold Brown asserted today that the nation's force of land-based intercontinental missiles might now be vulnerable to attack by the Soviet Union, somewhat sooner than had been anticipated by the Pentagon

Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Mr. Brown cast doubt on the likelihood of a Soviet "first strike" against American land-based missiles, noting that, at present, the United States would still have the means of retaliating with the two other elements of its nuclear "triad," submarine-based missiles and the nuclear weapons on the Strategic Air Command's planes.
Vulnerability	FORCE DYNAMIC	DEFENSE IS A PERSON	We must assume that the ICBM leg of our triad could be destroyed within a very short time as one result of a Soviet surprise attack
Defense	FORCE DYNAMIC	DETERRENCE SCHEMA	our strategic forces must deter nuclear attacks on smaller sets of targets in the United States or on United States military forces, and be a wall against nuclear coercion
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	He said the current capacity of American submarine-launched rockets and bombers, to survive any nuclear strike made a Soviet "first strike" highly unlikely, but added that this "is not a situation we want to live with indefinitely."
ICBMs threatened, 9/22/80 Chicago Tribune			
Vulnerability	JOURNEY	RUSSIA ACHIEVEMENT IS MOVEMENT	Defense secretary Harold Brown said Wednesday the Russians have or are on the verge of attaining the capability to destroy US landbase missiles in their underground launch bases
Vulnerability	THREAT	RUSSIA ACHIEVEMENT IS MOVEMENT IS A THREAT	The soviets are now deploying thousands of ICBM warheads accurate enough to threaten our fixed minuteman silos
Vulnerability	THREAT	RUSSIA ACHIEVING NUCLEAR POWER IS A THREAT	At that lime, Brown predicted that within a year or two we can expect the Soviet to obtain the necessary combination of ICBM numbers, reliability, accuracy, and warhead yield, to put most U.S. Land-based missiles in jeopardy.
Defense	FORCE DYNAMIC	DEFENSE IS MODERNIZATION	Brown expressed confidence that the United States can maintain what he called essential equivalence" with the Soviet Union and effectively deter Russian attack by modernizing its strategic force with the mobile MX missile, bombers armed with cruise missiles, and giant new Trident submarines with more potent and accurate weapons
Defense	FORCE DYNAMIC	DETERRENCE SCHEMA	Deterrence remains, as it has been historically, our fundamental strategy object, Brown said, but deterrence must restrain a far wider range of threats than just massive attack
Nuclear Gains by Russians Prompt a Reaction by U.S. 9/22/80 The New York Times			

Vulnerability	CONTAINER	RUSSIAN HAVING POWER IS A NEW ERA IN WHICH AMERICA IS VULNERABLE	The United States military, long use to having a clear edge over the Soviet Union in nuclear might, is being forced to adjust to a new era in which American strategy arsenal is becoming outdated and ever more vulnerable
Vulnerability	COMPETITION	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	Without improvements to the ballistic missiles and heavy bombers that make up the country's deterrence force, Washington could face, "at best a perception of inferiority, at worse a real possibility of nuclear coercion", Brown said
Vulnerability	CONTAINER	NUCLEAR DEFENSE POLICY IS A OLD BUILDING	Components of the nation's nuclear arsenal are wearing out
Vulnerability	FORCE DYNAMIC	DEFENSE IS A PERSON	Under the "triad" concept, the United States needed to deploy three different types of retaliatory systems, so that if Moscow were able to threaten one or even two legs of the triad Washington would be still able to respond to a Soviet attack
Vulnerability	JOURNEY	RUSSIA ACHIEVEMENT IS MOVEMENT	A step that would further complete Soviet first strike attempt
RETHINKING THE UNTHINKABLE, 3/15/81 The New York Times			
Vulnerability	THREAT	NUCLEAR RELATIONSHIPS ARE WAR	The fear of nuclear holocaust seemed to fade. but the specter now is re-emerging
Vulnerability	FORCE DYNAMIC	NUCLEAR WAR IS A LIVING THING	Nuclear war is a growing possibility
Vulnerability	THREAT	NUCLEAR RELATIONSHIPS ARE DESTRUCTIVE	The military theory of mutual assured destruction has endured as one of the few brilliantly simple formulas of nuclear strategy
Vulnerability	THREAT	NUCLEAR RELATIONSHIPS ARE WAR	Scenarios in which one side capitulates short of mutual holocaust
Vulnerability	THREAT	NUCLEAR RELATIONSHIPS ARE WAR	The prospect is that the resurgent specter of nuclear annihilation will be with us for a long time
Kennan Urges Halving Of Nuclear Arsenals, 5/20/81 Washington Post			
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	Historian and former diplomat George F. Kennan, declaring that the United States and the Soviet Union are on a 'collision course' toward eventual nuclear war, proposed yesterday that the two superpowers immediately reduce their atomic arsenals by 50 percent to break the momentum
Vulnerability	JOURNEY	DISASTER IS A DESTINATION	Kennan said he had no indication from either the U.S. or Soviet government that such a plan would be accepted but he expressed the belief that in the end governments and people will not allow the world to drift alone toward disaster
Vulnerability	JOURNEY	DISASTER IS A DESTINATION	Kennan said, "I have no illusion that such negotiations could ever be adequate to get us out of this hole. there are no way of escape from nuclear weapons race

Vulnerability	JOURNEY	DISASTER IS A DESTINATION	But a shortcut is necessary to avert the same old fateful track that has brought us where we are today, Kennan added
Vulnerability	THREAT	POWER IS MORE, POWER IS DISASTER	He added that the two nations have amassed in their nuclear arsenals more than one million times the destructive power of the atomic bomb that leveled Hiroshima in 1945
Soviets Hint at Nuclear Buildup, 7/17/81 Washington Post			
Vulnerability	CONTAINER	ACHIEVEMENT IS BUILDING	The Soviet armed forces chief of staff indicated today the Soviet Union has begun a buildup of strategic nuclear forces to counter US attempt to gain military superiority
Vulnerability	THREAT	RUSSIA ACHIEVING NUCLEAR POWER IS A THREAT	Ogarkov statement is the most explicit since the Reagan administration took office that Moscow is prepared to match any US development in the strategic nuclear field
Vulnerability	COMPETITION	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	Ogarkov also accused the Reagan administration of starting the arm race
Vulnerability	THREAT	NUCLEAR WEAPONS ARE FORCES OF DESTRUCTION	But in a departure from standard Soviet pronouncements on nuclear matters, Ogarkov discussed the catastrophic effects of a nuclear conflict
Vulnerability	COMPETITION	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	The Soviets are obviously worried about the possibility. They are spending a much higher share of their gross national product on defence than is the United Estates and the prospects of spending more in a new arm race can hardly be popular here.
U.S. Break With Past, 9/28/81 Los Angeles Times			
Vulnerability	THREAT	HOLOCAUST SCHEMA, NUCLEAR RELATIONSHIPS ARE WAR	Rostow and other members of the Administration responsible for arms control reject the View of their predecessors-Which was the basis of detente-that nuclear war can only produce a holocaust that both superpowers have a stake in avoiding
Defense	CONTAINER	PATH SCHEMA, ATTACK SCHEMA, CONTAINER SCHEMA	The goal, according to senior Pentagon officials, is to build a capacity to fight nuclear wars that range from a limited strike to an all-out exchange
Defense	CONTAINER	ACHIEVEMENT IS GROWING	The assumption of the Reagan Administration is that a growing Soviet military presence has led to political advantage
Vulnerability	CONTAINER	THE US IS A BUILDING, ATTACK SCHEMA	He calculated that what is now called the "window of vulnerability"—the moment when the Soviets would be capable of a first strike against the United States—would come in 1954

Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The possibility that, In a lethal mixture of hubris and despair, we might one day feel ourselves compelled to initiate a nuclear war. Such a war might or might not achieve Its object, but I doubt whether the survivors on either side would very greatly care
Reagan Proposes a Nuclear Freeze, 4/1/82 Los Angeles Times			
End	LINK	AGREEMENT IS FREEZE	President Reagan proposed Wednesday that the United States and the Soviet Union agree to a freeze on atomic weapons, but only after this country has achieved nuclear parity and erased Moscow's definite margin of superiority
End	LINK	LESS IS BETTER	A grim-faced Reagan emphasized his own commitment to arms control: I want an agreement on strategic nuclear weapons that reduces the risk of war, lowers the level of armament and enhances global security
End	LINK	LESS IS BETTER	At one point, mentioning the successful flight of the space shuttle Columbia. he observed that both the United States and the Soviet Union have written "proud chapters" in the peaceful exploration of space, and he urged the Soviets "to join with us now, to substantially reduce nuclear weapons and make and important breakthrough for lasting peace on earth"
Vulnerability	COMPETITION	THE US-RUSSIA RELATIONSHIP IS COMPETITION	Reagan. replying to a question, said he did not think there could be any "winners" in a nuclear war, everybody would be a loser if there's a nuclear war
REAGAN PROPOSES U.S. SEEK NEW WAY TO BLOCK MISSILES: STRONG PLEA FOR OUTLAYS, 3/24/83 The New York Times			
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	An effective defense against missiles launched by others
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	That doctrine of massive retaliation is based on the United States ability to counter any Soviet attack with a nuclear attack of its own
Defense	CONTAINER	ACHIEVEMENT IS BUILDING	our peaceful intentions by applying all our abilities and our ingenuity I to achieving a truly lasting stability?
Defense	PATH	ACHIEVEMENT IS MOVEMENT	To embark on research on defensive missile systems represented no threat to the Russians
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Reagan was aware that the Russians might fear that the United States was seeking a "first strike"
Reagan Orders Search for U.S. Missile Defense, 3/24/83 Los Angeles Times			
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS A FIGHT	Wants to Develop Technological Shield in Space Against Warheads to Replace Nuclear Deterrence
End	JOURNEY	AGREEMENT IS A JOURNEY	Tonight we are launching an effort which holds the promise of changing the course or human history. Reagan declared in a television broadcast aimed at rebuilding support of his embattled defense policies

Defense	CONTAINER	THE US IS A CONTAINER RUSSIAN MISSILES CAN PENETRATE	Reagan acknowledged that such a defensive umbrella lies far in future "It will take years, probably decades, of effort on many fronts," he said, "to give us the means for rendering these offensive nuclear weapons impotent and obsolete,"
End	MORALITY	AGREEMENT IS HOPE	The new approach, he said, offers a new hope for our children in the 21st Century
Defense	FORCE DYNAMIC	RUSSIA ACHIEVEMENT IS MOVEMENT	The president call for development of new strategic missiles […] to demonstrate what he called the continuing expansion of Moscow's military might
Defense	FORCE DYNAMIC	DETERRENCE SCHEMA	To "stop in midstream," Reagan said, would "mortgage our ability to deter war and achieve genuine arms reductions, And we will send a signal of decline, of lessened will, to friends and adversaries alike."
Andropov rips Reagan plan as road to nuclear war, 3/27/83 Chicago Tribune			
Vulnerability	JOURNEY	WAR IS A DESTINATION	Andropov rips Reagan plan as road to nuclear war
Vulnerability	COMPETITION	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	Soviet leader, Yuri Andropov said Saturday that President's Reagan new proposal for high-technology American missile defense was 'a bid to disarm the Soviet union' that would put the two nations into 'a runaway race' in offensive and defensive nuclear weapons
Vulnerability	COMPETITION	CONTAINER SCHEMA, RUSSIA ACHIEVING NUCLEAR POWER IS RUSSIA EXPANDING	He also said that such a system could lead eventually to elimination of all such weapons from the Earth and that, at present, the Soviets has a margin of superiority in nuclear arms
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION; FORCE SCHEMA: HIDRAULIC	Should this conception be converted into reality, this would actually open the floodgates to a runaway race of all types of strategic arms, both offensive and defensive
Defense	PATH	ACHIEVEMENT IS MOVEMENT	Andropov accused Reagan of silently omitting the US role in developing nuclear weapons step by step until the world faced possible nuclear catastrophe
Defense	FORCE DYNAMIC	THE US IS A FORCE	Andropov derided the notion that "the united states is inferior to the soviet union" in nuclear weapons and cited figures showing that US nuclear forces were substantially improved during the two decades of which Reagan spoke
Reagan warns of freeze peril, 4/1/83 Chicago Tribune			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS HOLOCAUST	Reagan calling on Americans to help him in "preventing a holocaust", warned Thursday that his arms-control efforts could be severely undercut by the dangerous concept of a nuclear freeze
End	LINK	AGREEMENT IS FREEZE	Several hundred demonstrators gathered outside the hotel, some supporting a nuclear freeze and other endorsing Reagan's pursuit of high technology for a futuristic missile defense system

End	LINK	AGREEMENT IS FREEZE	Reagan expressed deep concern over the nuclear freeze movement gaining momentum in the House, arguing that "however well intentioned they are, these freeze proposals would do more harm than good"
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	the new offer is to reduced the planned US deployment, but not eliminate it, if the Soviet agree to cut their SS-20s warheads to a comparable level
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	Reagan proposal to reduce ballistic missiles to one half and warheads by one third
End	JOURNEY	AGREEMENT IS A JOURNEY	Reagan had a goal of reaching agreement with the Soviets and he played hardball to reach this goal, both with the defense budget and the 'evil empire' speech and the like
Nuclear Weapons: Power Through Modernization, 5/23/83 The New York Times			
Defense	CONTAINER	POWER IS MORE	If Congress approves all of President Reagan's program to modernize nuclear striking forces, the result to modernize nuclear striking forces, the result will be a dramatic increase in the size and especially the power of the nation's nuclear
Defense	CONTAINER	POWER IS MODERNIZATION; POWER IS MORE	If no arms reduction treaty is reached with the Soviet Union, the result of the overall Reagan strategic arms program will be to increase the inventory of strategic nuclear warheads to 14,000 from 9,000
Defense	CONTAINER	NUCLEAR POWER IS A BUILDING	But, in fact, Mr. Reagan Is believed most likely to modify his treaty proposal by increasing both a proposed ceiling of 5,000 ICBM warheads and increasing or eliminating a proposed limit of 850 ICBM missiles
Defense	CONTAINER	POWER IS MORE	It includes a plan to deploy at least 100 large MX missiles with 1,000 hard target kill warheads, to design and presumably to deploy a force of Midgetman single-warhead missiles. With the same hard target capability and to build a fleet of 20 Trident submarine
Defense		ACHIEVENT IS GROWTH	The modernization program should incorporate an inherent growth potential to counter Soviet responsive actions
U.S. and Soviet Experts Say Nuclear War Would Destroy Human Race, 12/9/83 Los Angeles Times			
Vulnerability	CONTAINER	HISTORY IS A VERTICAL CONTAINER	A nuclear war of any scope would mean either the disappearance of mankind or its degradation to a level below the prehistorical

Vulnerability	THREAT	THE US-RUSSIA RELATIONSHIP IS A FIGHT	A strike using only half of the US and Soviet arsenals would immediately kill half of the world population, and that weather patterns caused by the radioactive explosions would eventually destroy the rest of humanity
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	The darkness alone would be enough to cut off the ecological base
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	"In the case of a local nuclear conflict anywhere on our planet, the mechanism of the general flow of the atmosphere would spread the nuclear dirt over the hemisphere involved in the course of about a month,"
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS SUICIDE	"It would be an elaborate way of committing suicide,"
U.S.-Soviet Panel Sees No Hope in an Atomic War, 12/3/83 The New York Times			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	A group of Soviet and American scientists agreed today a large scale nuclear exchange could mean the extinction of the human race
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS SUICIDE	They also agreed that the new evidence made it clear a nuclear attack would be suicide for the nation that launched it, even if there is no retaliatory strike
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	The Soviet scientists said their own studies confirmed recently published American findings that an exchange using only a small fraction of the existing warheads would produce a nuclear winter in which smoke and soot obscure sunlight, temperatures plunged to below freezing levels even in summer, food crops an other ecological systems were wiped out, radiation was several times more intense than previous estimated and, when the pall lifted, ultraviolet ray from the sun reached untenable levels
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Now, he said, the whole of earth and human civilization is hold hostage
Vulnerability	THREAT	NUCLEAR WAR IS DESTRUCTION	Carl Sagan, an astrophysicists at Cornell University and one of the authors of the American study, said that it could now be said that "there are no sanctuaries for a nuclear war, the ashes of communism and capitalism will be indistinguishable"
A Grim Agreement, 12/12/83 The New York Times			
End	JOURNEY	AGREEMENT IS A DESTINATION	But important Soviet-American agreement was recently reached in Washington, as scientists from both nations concurred on the most vital matter of all: A nuclear war cannot be won and must never be fought

Vulnerability	THREAT	NUCLEAR WAR IS DESTRUCTION	The consequences of nuclear war demonstrated that there would be "no sanctuaries," declared Carl Sagan, the Cornell University astrophysicist: "The ashes of communism and capitalism will be indistinguishable ...
Vulnerability	THREAT	ACHIVEMENT IS GROWTH	Sergei P. Kapitsa of the Moscow Physico-Technical Institute said that His studies demonstrated, "the growth of arsenals" was the real danger
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	And Mr. Ehrlich said that some Russians had a "better idea" than civil defense. They suggest that you wrap yourself in a sheet and crawl calmly to the cemetery, so as not to cause panic
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	Such flights of F.E.M.A. Fancy–which, of course, tend to support the dangerous illusion that nuclear war can be survived, hence can be fought–are blown out of the water by prominent scientists and other authorities in "The Counterfeit Ark," a new publication of Physicians for Social Responsibility.
Scientists See Man's Doom in Nuclear Winter, 12/18/83 Los Angeles Times			
Vulnerability	THREAT	WINTER SCHEMA, THE USE OF NUCLEAR WEAPONS IS WINTER, WINTER IS DEATH	A group of prominent Soviet and American scientists agreed today human life on Earth probably would come to an end in the "nuclear winter" that would follow a nuclear war.
Vulnerability	THREAT	WINTER SCHEMA, THE USE OF NUCLEAR WEAPONS IS WINTER, WINTER IS DEATH	In the postwar world "the homo sapiens (human beings) will not have the ecological niche" they now enjoy, said Dr. Vladimir Alexandrov, chief of the Department of Climate Models at the Soviet Academy of Sciences.
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	A nuclear war would produce dust and soot that would block out sunlight for many months […] nuclear winter
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	The effect would be what Sagan described as a "nuclear winter." "The darkness alone would be enough to cut off the ecological base," Ehrlich said.
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS SUICIDE	Sagan said the doomsday scenario would occur even if only one nation launched a "first strike" and the target nation did not fire back. "It would be an elaborate way of committing suicide," he said.
A perilous step toward star wars, 1/3/84 Chicago Tribune			
Defense	STAR WARS	WAR IS A DESTINATION	A perilous step toward star wars
Vulnerability	FORCE DYNAMIC	ARGUMENT IS WAR	This argument is not about defense but offense. The aim, candidly stated by space command planners, is to restore "pre-atomic notions of superiority" to make conflict at the upper levels of military violence [nuclear attack] again thinkable" They consider this would be an "invigorating turn of events for the spiritual vitality of the Western democracies"

Defense	CONTAINER	THE SPACE IS A CONTAINER	to develop a space-based defense against missiles as the magic formula to end the nuclear menace
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Isn't it time we stopped holding the American people hostage to the threat of nuclear war? Kramer said in committee testimony. "Unless we are willing to accept the prospect of a nuclear Perl Harbor from space, we must now join the President in a new national commitment to mutually assured protection
Vulnerability	THREAT	THE US-RUSSIA RELATIONSHIP IS WAR	Isn't it time we stopped holding the American people hostage to the threat of nuclear war? Kramer said in committee testimony. "Unless we are willing to accept the prospect of a nuclear Perl Harbor from space, we must now join the President in a new national
Nuclear winter: Climatic trauma after a war could destroy Earth, 1/22/84 Chicago Tribune			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER, WINTER IS DEATH	From their calculations, it now appears that the early '60s was the point at which the combined nuclear weapon stockpiled of the United States and Russia became large enough potentially to trigger a cataclysmic climatic disaster of global proportions
Vulnerability	THREAT	WINTER SCHEMA, THE USE OF NUCLEAR WEAPONS IS WINTER	a nuclear war would drastically alter the climate, turning the Earth dark and cold for about a year
Vulnerability	THREAT	NUCLEAR WEAPONS ARE DOOMSDAY MACHINES	It is likely that humanity had built a doomsday machine by 1962 and didn't know
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	The deadly sun-blocking smoke cloud would drift over the Equator, wiping out the cold-sensitive plants
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	a couple of hundred million tons of smoke into the air would decrease surface temperatures to well below freezing
Nuclear Winter: Atom War--And Then It Gets Worse, 1/22/84 Los Angeles Times			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	that it would block out sunlight for months
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	the long-term environmental and meteorological effects of such a war would plunge the Northern Hemisphere, and later all of the Earth into a season of harshness never before experienced. In short, a nuclear winter
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	Most of the Northern Hemisphere would be left groping and choking in total darkness for days or week on end under an initially heavy cloud of dust and noxious smoke caused by the bomb blasts
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	Heavy smoke would be the worst danger, more so that dust or radioactive contamination, because of the tremendous quantities of soot (carbon) that would be released into the air

Vulnerability	COMPETITION	THE US-RUSSIA NUCLEAR RELATIONSHIP IS COMPETITION	People sometimes suggest there could be a winner in a nuclear war. Schneider said. And I say: sure. For two weeks. That's how long it would take for all this stuff to get distributed globally. And then there'd be no winner. Just losers.
Star Wars' laser weapon revealed, 2/15/84 Chicago Tribune			
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	A secret government plan has developed a Star Wars mirror for the air force that can beam high-energy lasers into the sky and zap enemies targets almost instantaneously, officials disclosed Wednesday
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	A secret government plan has developed a Star Wars mirror for the air force that can beam high-energy lasers into the sky and zap enemies targets almost instantaneously, officials disclosed Wednesday
Defense	STAR WARS	STAR WARS IS A JOURNEY	President Reagan, however, has been pushing to accelerate the Pentagon's so-called "Star Wars" program, which includes laser and particle beams
Defense	STAR WARS	STAR WAR SCHEMA	Since light travels at a speed of 186.000 miles per second, the lethal flux would arrive at the target almost instantaneously and there would be no requirement to lead the target except at very long ranges, one reported said
Defense	STAR WARS	STAR WAR SCHEMA	If a laser weapon were stationed a mile away, a supersonic jet travelling twice the speed of sun would move only one-eight of an inch in the time it would take it would take a laser beam to destroy the aircraft, a report said
IS THE NUCLEAR THREAT MANAGEABLE? 3/4/84 The New York Times			
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	new and heighten fear of nuclear war seems to be gripping Americans and Europeans
Vulnerability	CONTAINER	NUCLEAR WAR IS A CONTAINER	the unites states and the soviet union are now in the threshold of a decision that could make nuclear war seriously thinkable
Defense	STAR WARS	POWER IS MODERNIZATION; POWER IS MORE	But if a potential attacker could calculate that be could strike first knock out most of the other side's weapons, and destroy the remaining ones with missile defenses as they approached
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	This would reduce the Specter of the MX as a first-strike weapon, since if it could survive it could be used in retaliation
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	In nuclear doctrine, it Is necessary to have choices between massive retaliation and surrender

Understanding Potential Holocaust Of 'Nuclear Winter', 5/20/84 The New York Times			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	A two-year study conducted by more than 100 biologists, physicists and atmospheric scientists found that the explosion of 5,000 megatons, less than one half the world's nuclear arsenal, would blanket much of the earth with a thick cloud of soot and smoke that would obscure the sun for months, thereby creating a "nuclear winter" of subzero temperatures even in the summer
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	A global "toxic smog" would spread radioactive dust around the world ultimately in both hemispheres.
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	When the clouds lifted whatever life remained would be at the our own extinction but also of the extinction of the human race
Vulnerability	COMPETITION	COMPETITION IS MENTAL STATE, THE US-RUSSIA NUCLEAR COMPETITION IS MADNESS	Indeed, why are we not pouring onto the streets and into the halls of Congress and crying out: "Stop the madness! Stop the arms race'"
STAR WARS' DEFENSES, 6/3/84 Chicago Tribune			
Defense	STAR WARS	MISSILES ARE PEOPLE	When the SS-18 or other ICBM is launched, the gunner fires, stitching a row of holes down the side of the missile, reducing its appetite for carrying out its mission
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	Exclaimer laser: destroy with ultraviolet beams emitted from chemical fuel ignited by huge amount of electricity
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	electromagnetic laser: homing vehicle
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	x-ray lasers: small nuclear bombs surrounded by laser rods that would point to individual targets
Defense	STAR WARS	THE US-RUSSIA RELATIONSHIP IS STAR WARS	chemical laser: weapon would use chemical reactions to create beam that must focus on one spot of the missile
U.S. Weighs Risk That Atom War Could Bring Fatal Nuclear Winter, 8/5/84 The New York Times			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER, WINTER IS DEATH	The Federal Government has embarked on a broad program to assess the theory that fires set by even a limited exchange of nuclear weapons would blot out so much sunlight with smoke and soot that life on earth would be all but extinguished
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	The upshot they argued, would be the extinction of a significant proportion of the earth's animals and plants, including possibly the human race
Defense	STAR WARS	STAR WAR SCHEMA	"air breathing vehicles" such as the military's various airborne command posts and cruise missiles might have "lowered survivability due to dust-induced turbine flame out."

Allies fear 'Star Wars' race, 2/10/85 Chicago Tribune			
Defense	STAR WARS	STAR WARS IS A RACE	Allies fear 'Star Wars' race
Defense	STAR WARS	STAR WARS IS A RACE	French Defense Minister Charles Hernu expressed deep misgivings at a NATO conference Saturday about President Reagan's "Star Wars" space-based defense system, saying It probably would contribute to a new arms race
Defense	CONTAINER	SPACE IS THE NEW FRONTIER WITHIN NUCLEAR AFFAIRS	If such systems were to be deployed, one could easily think that the old dichotomy of the spear and shield would extend to the field of nuclear arms
Vulnerability	COMPETITION	THE US-RUSSIA RELATIONSHIP IS WAR; SPACE IS THE NEW FRONTIER	arm control talks in Geneva next month must seek to prevent an arm race in space
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Many officials believe that fear of nuclear retaliation has kept peace for four decades, according to the study
Star Wars' Technology: It's More Than a Fantasy, 3/5/85 The New York Times			
Defense	STAR WARS	STAR WARS SCHEMA	Hidden in the rocky canyons of Santa Susana mountains is the near thing to a star wars laser base […] its code-name is Sigma Tau
Defense	STAR WARS	STAR WARS SCHEMA	the capitalism has made possible the dose of reality to see the science-fiction promise of star wars
Defense	STAR WARS	STAR WARS SCHEMA	At the University of Texas, an experimental rail-gun named gedi sits in a high ceiling laboratory crammed full of electrical generators and equipment. It would have been named 'Jedy', like the movie, but that name is covered by copyright
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	the proposed space shield…
Defense	STAR WARS	STAR WAR SCHEMA	Antisatellite weapons, electron-beam accelerators, and radar platforms
Reagan, Kremlin Aide Debate, 3/8/85 Los Angeles Times			
End	JOURNEY	AGREEMENT IS A JOURNEY	President Reagan and a senior member of the Soviet Politburo conducted "a lively give and take" in the Oval Office on Thursday, warming up for the resumption of arms talks next Tuesday by arguing over the President's "Star Wars" program
Defense	FORCE DYNAMIC	ATTACK SCHEMA: CONTAINER SCHEMA + FORCE DYNAMIC	"Today such a system could be defensive, but tomorrow it could become offensive," the high-ranking Kremlin official asserted. "If the United States pursues this line, the Soviet Union will have to take adequate measures."
End	JOURNEY	AGREEMENT IS A JOURNEY	We are ready to agree to a number of compromises. And if the United States government will go along in the same direction, then a solution based on a compromise could be reached and the people would breathe more easily."

End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	In Geneva our goals are to achieve reduction and eventual total elimination of (nuclear) arms.
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	But at the same time, we are not going to allow ourselves to drift into inferiority. If we can't get reduction, we will have to continue the modernization of our defense forces
Nuclear Winter and Twisted Logic, 7/17/85 Washington Post			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	The smoke and dust would shut out all but a tiny fraction of sunlight for weeks or months, causing a sharp temperature ,drop and changing the world's climate in possibly deadly ways. The extinction of man could not be ruled out
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	Enough nuclear warheads aimed at enough highly flammable targets might indeed put the world into a deep freeze
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS SUICIDE	The goal Is deterrence, but if deterrence failed it would leave our President only two choices: surrender or national suicide
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	His quarrel is with the marriage between nuclear Winter theorists and those Who believe that the only way to avoid nuclear war is to keep alive the threat of global annihilation through the deliberate targeting of civilian populations.
Vulnerability	COMPETITION	THE US-RUSSIA RELATIONSHIP IS COMPETITION	Freeman Dyson, author and Princeton physicist, fears that the discovery of nuclear winter, If confirmed, will only set off a race among military planners to make war "safe" again.
Scientists see billions starving to death in 'nuclear winter', 9/13/85 Washington Post			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	In recent years, some influential folks have carried the doctrine of mutual assured destruction to truly MAD proportions
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	Shortly after a nuclear war, dense smoke cloud over some areas could block 99 percent of the sunlight
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	sudden temperature changes in the united states would destroy several growing seasons
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	nuclear explosions would release ozone-destroying nitrogen oxides into the atmosphere
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	The explosions would emit toxic chemicals that would pollute the air and soil
Study Says Billions Might Die In a 'Nuclear Winter' Famine: International Scientists Issue Findings, 9/13/85 Washington Post			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	the period of darkness and freezing that many atmospheric scientists say could result form a globe-girdling pall of smoke and dust produced by a major nuclear war
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	full-scale nuclear war probably would cause such a severe and sudden climatic change that it could destroy agriculture

Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	Nuclear war could trigger an abnormal freeze, plunging temperatures in much of the northern hemisphere to 35 to 70 degrees F below normal.
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	a severe freeze in summer obviously would destroy crops
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	Hartwell said famine would kill about 2.5 billion people
We Need Star Wars, 9/26/85 Washington Post			
End	JOURNEY	AGREEMENT IS A JOURNEY	The crucial first step in that decision is the elaboration of a policy on defense and arms control that reflects the revolutionary changes in weapons technology, reduces the reliance on nuclear weapons and responds to the global yearning to banish nuclear apocalypse.
Defense	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	The crucial first step in that decision is the elaboration of a policy on defense and arms control that reflects the revolutionary changes in weapons technology, reduces the reliance on nuclear weapons and responds to the global yearning to banish nuclear apocalypse.
End	JOURNEY	AGREEMENT IS A JOURNEY	The administration has an opportunity to bring about a historic change in strategic relationships and vastly reduce the threat of a nuclear apocalypse
End	JOURNEY	AGREEMENT IS A JOURNEY	They do have an obligation to chart a responsible course of their own that sacrifices propaganda to the opportunity for a genuine reduction in the nuclear threat
Reagan Says 'Star Wars' Will Aid Efforts for Arms-Control Accord, 10/20/85 The New York Times			
Defense	CONTAINER	THE US-RUSSIA RELATIONSHIP IS WAR	President Reagan said today that the Administration viewed a United States space shield against nuclear weapons as moral obligation that would improve the prospects for an arms agreement with the Soviet Union
Defense	JOURNEY	ATOMIC RESEARCH IS A JOURNEY	This program is an historic turning point, Mr. Reagan told an enthusiastic Republican audience in Boise, Idaho, today, referring to his space-based defense program
Defense	CONTAINER	THE US-RUSSIA RELATIONSHIP IS WAR	The idea of Using American technological genius to develop a system to protect us against nuclear missiles is moral and in the fundamental interests of our allies, and the cause of peace
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS DEATH	How long after all, can the American people hold to a strategy that threatens innocent lives

Defense	CONTAINER	ACHIEVEMENT IS MOVEMENT; ATTACK SCHEMA: CONTAINER	"technological advances, like developing a space shield, offer us new options."
Star Wars' Lasers Held Able to Incinerate Cities, 1/12/86 Los Angeles Times			
Defense	STAR WARS	STAR WARS SCHEMA	High intensity laser light
Defense	STAR WARS	STAR WARS SCHEMA	Laser weapons being developed as a part of the SDI could more easily be used to incinerate enemies cities than to protect the United Estates against soviet missiles, according to an article in the current issue of a leading physics magazine and a separate study being circulated among government weapons scientists
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	But new analysis suggests that high-intensity laser light from such weapons could also be used offensively to unleash massive firestorms, possibly producing an environmental disaster similar to nuclear winter
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	we would be back were we started from: deterrence by retaliation
Defense	STAR WARS	STAR WARS SCHEMA	there is no question that such a devise could also be used to create mass fires of enormous scale and ferocity, mass urban fires potentially larger and more intense than those created by the great incendiary raids on Hamburg and Dresden in World War II
Reagan Sees Hope on Arms Control, 11/23/85 Los Angeles Times			
End	JOURNEY	AGREEMENT IS A JOURNEY, CONTROL IS DESTINATION	President Reagan said Friday that he hopes for progress toward arms control as a result of his repeated assurances to Soviet leader Mikhail S. Gorbachev that the United States will not use "Star Wars" -the space based anti-missile defense research project-for offensive purposes
End	JOURNEY	AGREEMENT IS A DESTINATION	"I told him I hoped they would respond by going forward with their own research and that I felt we should come to an agreement that whenever one of us or both of us could come up with a defensive system then let's share it so we could get rid of the nuclear weapons."
End		MENTAL ATMOSPHERE IS PHYSICAL ATMOSPHERE	The one-on-one encounters. Reagan said. Provided "a great measure of the success" of the summit and created the atmosphere that make it possible for the two leaders to discuss of the summit to discuss such sensitive issues as human rights.
End	JOURNEY	AGREEMENT IS A DESTINATION	"That does not mean that we're giving in," he said, "nor do we expect the Soviets to give in from their position, but we'll try to see if there are places where compromise can be arrived at in a more orderly manner and in a faster manner.

End	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA: THE US-RUSSIA AGREEMENT IS THE US-RUSSIA WORKING TOGETHER	But the summit was most valuable, Regan said as a means of giving the leaders of the world's superpowers an understanding that they could work together
Nuclear Winter', 9/3/86 Los Angeles Times			
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	In the three years since "nuclear winter" was first postulated, controversy has raged in the absence of any hard data to either support or refute the theory that smoke from fires ignited during a nuclear war would block all sunlight, plunging Earth into a deadly deep freeze
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS WINTER	We find that a global nuclear war could have a major impact on climate-manifested by significant surface darkening over many weeks, subfreezing land temperatures persisting for up to several months, large perturbations in global circulation patterns, and dramatic changes in local weather and precipitation rates-a harsh 'nuclear winter' in any season
Vulnerability	THREAT	THE USE OF NUCLEAR WEAPONS IS CONTAMINATION	Small particles block incoming sunlight but allow heat radiating from Earth to escape into space. "Fine particles of soot work like a one-way mirror,", Brode said.
Arms Proposal Praised by Soviet Defense Chief, 11/8/87 Los Angeles Times			
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Soviet Defense Ministry Dmitri T. Yazov said Saturday that unnamed "reactionary imperialist circles" are still seeking military superiority and that "the threat of nuclear war has not been averted."
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The Soviet Union is taking all necessary measures to keep its armed forces in such a state of readiness that no aggressor would dare attack
Vulnerability	FORCE DYNAMIC	RUSSIA IS A PERSON	The parade showed some of the soviet military muscle
End	JOURNEY	THINKING IS A PATH	Western diplomats, however, said the reference has become standard for the annual military parade on Nov. 7, and they felt the overall tone of Yazov's remarks was in line with Gorbachev's "new thinking" on nuclear disarmament
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Yazov Implied that minor changes are taking place in the Soviet armed forces to enhance "vigilance and combat readiness."
THE SUMMIT IN MOSCOW: THE FOURTH REAGAN-GORBACHEV MEETING, 5/29/88 Washington Post			
Vulnerability	COMPETITION	RUSSIA ACHIEVING NUCLEAR POWER IS RUSSIA DOMINATING THE WORLD	In the first news conference of his presidency on Jan. 29, 1981, Ronald Reagan summed up his view of the Soviet Union by saying that its goal was world domination and declaring that Soviet leaders "reserve unto themselves the right to commit any crime, to lie, to cheat, in order to attain that...

End	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS MOVEMENT	Reagan is riding the crest of an immense change in U.S.-Soviet relations that largely reflects Significant differences between Gorbachev and his predecessors
End	LINK	CONTROL IS HALVING	During the first meeting between the two in 1985, Gorbachev insisted that before any U.S.-Soviet nuclear arms deal could be reached, the Reagan administration must curb its plans to build a space-based defensive shield against nuclear-tipped missiles
End	CONTAINER	AGREEMENT IS BUILDING	This view was reflected in a Jan. 16, 1984, internationally televised speech that advocates of improved U.S.-Soviet relations view as the turning point away from the "evil empire" approach. In this speech Reagan called for "a constructive and working relationship with the Soviet Union" to solve world problems, including regional conflicts.
End	JOURNEY	AGREEMENT IS A DESTINATION, SPORT METAPHORS	Reagan had a goal of reaching agreement with the Soviets and he played hardball to reach this goal, both with the defense budget and the 'evil empire' speech and the like
Soviet Nuclear Blackmail, 5/17/89 The New York Times			
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	The Red and the Blackmail would be a fitting title for the most recent example of Soviet efforts to intimidate the U.S. and its allies
End	JOURNEY	NUCLEAR AFFAIRS ARE A JOURNEY	This blatant extortion is a throwback to the cold war tactics that Moscow says it has abandoned under Mikhail Gorbachev
Vulnerability	FORCE DYNAMIC	RUSSIA ACHIEVEMENT IS MOVEMENT	So Moscow has resorted to the unscrupulous of unilaterally revising the terms of an agreement by deliberately violating one of its obligations
Vulnerability	CONTAINER	ACHIEVEMENT IS BUILDING	Soviet scientists and diplomats, many of whom have now embraced glasnost, dismissed U.S. complaints as propaganda and erected a wall of lies to excuse the installation they knew to be illegal
Vulnerability	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Once successful, blackmail is often repeated at increasing cost until someone cans a halt
The Return Of Nuclear Deterrence, 6/27/89 Washington Post			
Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	President Bush is quietly redeeming nuclear weapons from the purgatory to which they were assigned by Jimmy Carter and Ronald Reagan. The mutually assured destruction doctrine, stigmatized as evil and unworkable by Reagan, is being rehabilitated by Bush as essential to world peace

Defense	FORCE DYNAMIC	THE US-RUSSIA RELATIONSHIP IS WAR	Reagan recoiled from MAD, which holds that neither the United States nor the Soviet Union win launch a nuclear attack if it is dear that each nation will retain enough retaliatory power to destroy the aggressor in a nuclear war.
Defense	JOURNEY	THE US-RUSSIA RELATIONSHIP IS MOVEMENT	Bush's new emphasis on the role of nuclear deterrence in keeping peace could bring him into conflict with committed supporter a of Reagan's Strategic Defense Initiative down the road
End	JOURNEY	AGREEMENT IS A JOURNEY	These are risks worth taking if the administration is embarking on an orderly reappraisal and reduction of the role of nuclear weapons for the future.
Vulnerability	COMPETITION	THE US-RUSSIA RELATIONSHIP IS COMPETITION	The recent spat between Washington and Bonn over short-range nuclear missiles stationed in West Germany was only the most visible sign that rapid political changes occurring in Europe will have an impact on all levels of nuclear strategy
Superpowers Agree on Nuclear Arms Cuts, 6/2/90 Washington Post			
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	President Bush and Soviet President Mikhail Gorbachev yesterday announced their long-promised agreement on basic provisions of a landmark treaty slashing U.S. and Soviet strategic nuclear weapons and, in an unexpected move, signed a commercial accord to facilitate trade between the two countries
End	JOURNEY	AGREEMENT IS A JOURNEY	The Soviet leader, in reply, cited President Franklin D. Roosevelt's "four freedoms" declaration of 1941 and said that "while liberating the world from fear, we are making steps toward a new world"
End	JOURNEY	AGREEMENT IS A JOURNEY	"The world has waited long enough. The Cold War must end."
End	JOURNEY	AGREEMENT IS A JOURNEY	Bush previously had expressed reluctance to move ahead with the trade accord with the Soviet Union
End	JOURNEY	AGREEMENT IS A JOURNEY	The completion of the START declaration and signing of the trade and grain agreements cleared away nearly all of the pressing business
End	JOURNEY	AGREEMENT IS A JOURNEY, CONTAINER SCHEMA	time to bridge the wide gap between the two sides
Reviewing Nuclear Aims, 7/3/90 The New York Times			

End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	They contend that it rejects a significant desire to reduce the armament long-standing dependence on nuclear weapons and adjust to the new military realities in Europe
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	Mr. Bush also wrote of the importance of "modifying flexible response to reject a reduced reliance on nuclear weapons," Western officials said
End	CONTAINER	THE SOVIET UNION IS A BUILDING/CONTAINER	NOW, with the Warsaw Pact collapsing and Soviet forces withdrawing from Eastern Europe, there is no longer a need to think in terms of an early retaliatory use of nuclear weapons by NATO
End	JOURNEY	AGREEMENT IS A JOURNEY	But the rapidly changing political equation in Europe has already pushed the alliance toward changes that were not foreseen a year ago
Defense		DEFENSE IS A MACHINE	NATO's nuclear arsenal will enable the West to achieve what has long been primarily a rhetorical goal: an operational doctrine of "no early first use."
Allies to Ask Gorbachev To NATO: Bush's Proposal On Nuclear Arms Said to Be Approved, 7/6/89 Washington Post			
End	JOURNEY	AGREEMENT IS A JOURNEY, FORCE DYNAMIC SCHEMA	The 16 Western alliance leaders gathered here agreed easily on a series of gestures aimed at reassuring the beleaguered Soviet leader and his critics that the era of Cold War confrontation has ended for NATO
End	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA	But debate was sharper on the gut issues of changing the alliance's nuclear strategy and deployment of its forces
End	FORCE DYNAMIC	FORCE DYNAMIC SCHEMA	the combined strength of U.S. and Soviet forces in central Europe under a pending agreement
End	JOURNEY	AGREEMENT IS A JOURNEY	"The starting point must be the strategy and forces we need for the future, not what we can discard," Thatcher told the other leader gathered in Lancaster House, a 19th-century mansion in central London.
End	CONTAINER	AGREEMENT IS BUILDING	The letter also expressed Gorbachev's hope that the NATO summit would make a "constructive contribution" to the development of European security.
The Nuclear Priority: To curb proliferation, ban testing, 1/7/91 The New York Times			
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	The Nuclear Priority: To curb proliferation, ban testing.
End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE REDUCED	There are two reasons why stopping all tests would be effective in curbing proliferation. The first is the obvious one that It country seeking to develop nuclear weapons would want to test one or more. A test would show whether a weapon worked, and it would also serve the political purpose of intimidating neighbors.

End	LINK	NUCLEAR POWER IS AN OBJECT THAT CAN BE STOPPED	The Nuclear Nonproliferation Treaty of 1970 created a discriminatory order, emphasizing the danger of nuclear weapons but doing nothing about the five states that had them that was a necessary recognition of reality. But the many non-nuclear countries that joined the treaty are growing more insistent that the nuclear powers at least stop their testing
End	JOURNEY	AGREEMENT IS A JOURNEY	"A conference on amending the Limited Test Ban Treaty opens today at the United Nations. Given the prickly feelings on the issue, the conference is not likely to get very far. But President Bush should be moving on his own to take the initiative on eliminating nuclear tests."
End	JOURNEY	AGREEMENT IS A JOURNEY	A conference on amending the Limited Test Ban Treaty opens today at the United Nations. Given the prickly feelings on the issue, the conference is not likely to get very far. But President Bush should be moving on his own to take the initiative on eliminating nuclear tests.
U.S., Soviets Reach Pact Reducing Nuclear Arms: STRATEGIC ARMS REDUCTION TREATY, 7/18/91 Washington Post			
End	JOURNEY	AGREEMENT IS A DESTINATION	President Bush and Soviet President Mikhail Gorbachev announced today that the United States and Soviet Union have reached final agreement on the first treaty of the atomic age to actually reduce their arsenals of long-range nuclear weapons
End	CONTAINER	AGREEMENT IS A CONTAINER	Bush and Gorbachev sealed the agreement in a private meeting ending a nine-year negotiation aimed at trimming by one-third the continent-spanning nuclear weapons each country has targeted at the other
End	JOURNEY	AGREEMENT IS A JOURNEY	Gorbachev said he hoped people would "be able to now breathe more quietly and to say that we have moved further away from the threat of nuclear war. It's our common victory, and I think that all those who have worked toward this important step, they really deserve a lot of credit."
End	JOURNEY	AGREEMENT IS A JOURNEY	The arms agreement marks another milestone in the shifting direction of U.S.-Soviet relations in the aftermath of the Cold War.
End		PROBLEMS ARE SOLID ELEMENTS	The presidents then met briefly with reporters. "We were told that all of the issues are solved". Gorbachev said, announcing the agreement. "We, with the president of the United States, have agreed to formalize everything in Geneva." Later, U.S. officials said this was a reference to drafting the actual treaty, not to any negotiations.
Despite Euphoria on Arms Control, Deterrence Remains, 7/30/91 The New York Times			
End	JOURNEY	AGREEMENT IS A NEW ERA	The hope that a new era in arms control will begin with the signing of the Strategic Arms Reduction Treaty at the Moscow summit this week may be misguided, officials and arms control experts acknowledged.

Defense	FORCE DYNAMIC	THE US-RUSSIA TENSIONS ARE ICE	To those who maintain that this policy should be changed to reflect thawing cold war tensions. its adherents say deterrence has worked for the last four decades and ask wily it should be abandoned so quickly now
Defense		LESS IS BETTER	The number of Soviet long-range nuclear weapons down from nearly 11,000 to between 7,000 and 8.000, and the United States warheads from 12.000 to 10.500
End	CONTAINER	AGREEMENT IS BUILDING	arms control advocates say. Strategic Arms Reduction Treaty negotiators have settled the difficult task
Remarks by President Bush on Reducing U.S. and Soviet Nuclear Weapons, 9/28/91 The New York Times			
End	JOURNEY	AGREEMENT IS A JOURNEY	The world has changed at a fantastic pace with each day writing a fresh page of history before yesterday's ink has even dried. And most recently. we've seen the peoples of the Soviet Union turn to democracy and freedom, and discard a system of government based on oppression and fear
End	JOURNEY	AGREEMENT IS A JOURNEY	Today. America must lead again - as it always has, as only it can. And we will. We must also provide the inspiration for lasting peace. And we will do that, too. We can now take steps in response to these dramatic developments - steps that can help the Soviet peoples in their quest for peace and prosperity.
End	LINK	AGREEMENT IS A JOURNEY	If the Soviet leaders and we take the right steps. .. We can dramatically shrink the arsenal of the world's nuclear weapons. We can more effectively discourage the spread of nuclear weapons.
End		THE FUTURE IS A MALLEABLE OBJECT, AGREEMENT IS A JOURNEY	And we will intensify our effort to curb nuclear and missile proliferation

RESÚMENES EN ESPAÑOL E INGLÉS

SUMMARY IN SPANISH AND ENGLISH

RESUMEN EN ESPAÑOL

1. MARCO TEÓRICO, HIPÓTESIS Y OBJETIVOS

La presente tesis engloba un acercamiento multidisciplinar al fenómeno de la conceptualización de nuevos eventos. Para ello, el tópico elegido es el discurso nuclear propiciado y promovido por los medios de comunicación norteamericanos durante el periodo de la llamada Guerra Fría, que comprende los años que van desde 1945 a 1991. El interés particular del presente trabajo es analizar el tipo de discurso empleado por distintos periódicos de gran tirada y su impacto en la opinión pública estadounidense respecto al fenómeno de la energía nuclear y sus usos tanto pacíficos (los menos) como armamentísticos durante dicho periodo.

El marco teórico de la presente tesis comprende un amplio eje que va desde el Análisis Crítico del Discurso, a la Lingüística Cognitiva y la Psicología Evolutiva. La principal idea de este trabajo es observar como decisiones lingüísticas al nivel local implican la activación de una serie de mecanismos ideológicos al nivel global que asimismo impactan enormemente en la recepción y actuación frente a ellos de la opinión pública.

En del marco del Análisis Crítico del Discurso, la presente tesis se posiciona dentro de las teorías propuestas por Van Dijk (1997, 1998, 2000) y su idea de ideología como constructo lingüístico que moldea nuestro sistema de valores hasta el punto de crear, vía discursiva, un conjunto de creencias factuales en las que la ideología del grupo, o parte de ella, se fundamenta. Para Van Dijk (1997: 67) existe una interrelación entre

discurso, cognición y sociedad que debe ser analizada para descifrar el poderoso impacto del discurso en la organización de un grupo social.

Dentro de la lingüística cognitiva, mi principal interés versaba en torno a la idea de conceptualización de eventos y su relación con el discurso y la ideología. En este apartado destacan la metáforas conceptuales como elemento sumamente crucial en la construcción del mapa mental de un evento. En esta línea, la tesis sigue los parámetros propuestos por Lakoff y Johnson (1980, 2002) y sus teorías sobre las metáforas conceptuales como verdaderas organizadoras de nuestro conocimiento y entendimiento del mundo externo que nos rodea. Estas metáforas conceptuales se emplean en el discurso para enmarcarlo dentro de un contexto determinado y son, por ello, susceptibles de manipulación ideológica.

Es indudable la estrecha relación que existe entre el discurso y su organización ideológica y la conceptualización del mismo por medio de metáforas conceptuales que contribuyen enormemente al posicionamiento de la opinión pública respecto a un evento. En cualquier caso, un aspecto crucial a tener en cuenta dentro de este triángulo de discurso, cognición y sociedad es indagar más allá de la producción de discurso y su organización, para analizar la recepción e interpretación que del mismo hace la opinión pública. Dentro de esta tesis, un apartado que he querido tener en cuenta a la hora de alcanzar cualquier tipo de conclusión es la recepción de texto por la opinión pública. Para ello, el presente trabajo utiliza numerosas teorías propuestas por lingüistas (Hart 2010, Chilton 2004) así como psicólogos (Schaller 2006, Keltner 2003, 2006, Haidt 2003, 2006) acerca de la psicología evolutiva y cómo la reacción a distintos discursos estás basada en ciertos elementos evolutivos.

Dado este acercamiento interdisciplinario, el propósito de mi tesis era seleccionar un nuevo evento y estudiar su evolución y representación dentro del discurso institucional. Asimismo, otro de los propósitos era ver cómo dicho evento y su evolución era interpretado por la opinión pública. Para ello, seleccioné un tema que durante mucho años constituyó, y todavía constituye, un elemento crucial en la configuración ideológica de gran parte del planeta: la energía nuclear y sus usos tanto pacíficos como militares. Para mí, la condición abstracta de la energía nuclear, tan intangible y difícil de experimentar, parecía un elemento ideal a la hora de localizar un nuevo evento que debe ser conceptualizado. Para ser más precisos, la presente tesis se enfocó en el estudio de discurso nuclear estadounidense dentro del contexto socio-político de la Guerra Fría en el que una marcada ideología nuclear emergió como batalla constante entre el Este y el Oeste.

Una vez seleccionado el evento, tenía que decidir qué tipo de discurso iba a utilizar para llevar a cabo mi proyecto. Apoyada en las teorías propuestas por Van Dijk (1988) y Fairclough (1995), decidí estudiar el discurso de los medios de comunicación, en concreto, dado el periodo de tiempo que iba a estudiar, me centré en el estudio de periódicos de gran tirada nacional.

Las hipótesis planteadas en el presente trabajo son las siguientes:

(1) El discurso de los medios de comunicación construyó los cimientos de la que sería la 'ideología nuclear' estadounidense durante el periodo de la Guerra Fría. Esto presupone que los medios de comunicación adaptaron su discurso a los intereses políticos del momento mediante el empleo de distintos tipos de estrategias discursivas.

(2) Los distintos tipos de estrategias discursivas denotan una particular orientación ideológica así como una precisa conceptualización. A la hora de seleccionar un tipo de estrategias, las metáforas conceptuales y su representación léxica al nivel local constituyen material suficientemente sólido como para alcanzar conclusiones acerca de la estructura ideológico-conceptual de la 'Era Atómica'.

(3) La interpretación de un texto está basada en principios evolutivos que inducen al receptor a comportarse de una manera particular. El uso de un discurso estratégico-manipulativo tiene un efecto determinante en la recepción de la ideología nuclear por la opinión pública. El tipo de selección metafórica llevada a cabo por los medios de comunicación tiene un efecto, no sólo al nivel de la producción, pero también durante la fase interpretativa en la que la formación del significado se ve prejuiciada por las distintas estrategias discursivas.

Con estas tres hipótesis en mente, el objetivo de esta tesis era examinar hasta que punto la ideología nuclear había sido moldeada por el discurso de los medios de comunicación; determinar como ciertas metáforas conceptuales son empleadas en servicio a la manipulación ideológica; y discernir si cierta organización ideológica de un texto puede incitar a un tipo particular de comportamiento en los receptores.

2. METODOLOGÍA Y ORGANIZACIÓN DE LA TESIS

Esta tesis se organiza en torno al análisis de artículos periodísticos de cuatro diarios estadounidenses: *The New York Times, Los Angeles Times, Chicago Tribune*, y *Washington Post*. Al objeto de constituir un buen nutrido corpus del que poder inferir datos que afianzaran mis hipótesis, una exhaustiva búsqueda de artículos fue llevada a cabo. El instrumento electrónico utilizado para tal propósito fue *Proquest*, una base de datos electrónica que compila artículos periodísticos desde el siglo XIX. Para la configuración del corpus, primeramente, una ardua documentación histórica me permitió delinear las cinco etapas principales del conflicto, a las que titulé:

- 1945-1949: *El nacimiento de la Era Atómica*
- 1949-1952: *La segunda Era Nuclear*
- 1953-1963: *La amenaza nuclear*
- 1963-1979: *Las conversaciones atómicas*
- 1980-1991: *De vuelta a la amenaza nuclear*

Para cada periodo, 50 textos se seleccionaron, configurando un corpus total de 250 textos. Una vez el corpus había sido organizado, se llevó a cabo la selección de estrategias lingüísticas que serían analizadas con el fin de probar las hipótesis de la tesis. Para ello, 5 elementos léxicos que estuvieran en relación directa o indirecta con una metáfora conceptual fueron seleccionados de cada artículo. Una vez concluida la selección de material léxico al nivel local, se procedió al análisis pormenorizado de los datos, así como a su organización a nivel global y temático.

Asimismo, al objeto de verificar cómo los distintos tipos de manipulaciones ideológicas vertidas por la prensa influyeron en la recepción de la Era Nuclear, una profusa compilación de encuestas públicas relativas a cuestiones atómicas fue organizada en torno a las distintas etapas de la Guerra Fría. La principal fuente para dichas encuestas

fue Gallup Polls, pero también se consultó *The Quarterly of Public Opinion*. Estos datos servirían para cotejar y verificar la hipótesis (3) de la tesis.

3. ANÁLISIS DE LOS DATOS

Los datos y sus análisis ofrecen un entendimiento claro de lo que supuso el discurso manipulativo de la prensa y sus consecuencias respecto al posicionamiento de la opinión pública dentro de la ideología atómica. Las distintas etapas ofrecen distintas perspectivas, cotejando las hipótesis que originalmente se formularon. El discurso, así como las distintas estrategias discursivas son considerablemente distintas dependiendo de la motivación ideológica que cada periodo proyecta.

3.1. 1945-1949: El nacimiento de la Era Atómica

Los bombardeos de Hiroshima y Nagasaki constituyeron el pistoletazo de salida de la pomposa Era Atómica. Una nueva etapa que desde las instituciones norteamericanas se vendía con un desmesurado optimismo que dejaba de lado las más oscuras repercusiones que el uso de bomba atómica tuvo en la población civil. La prensa escrita hizo eco de esa confianza en las promesas de la energía atómica mediante un tipo de discurso que primaba un acercamiento positivo a la misma. Sin embargo, ya desde el principio se adivinaba un clima de tensión y competición por mantener el exclusivo monopolio atómico.

Los datos pertenecientes a este periodo arrojan información bastante clara acerca de la orientación ideológica de esta primera etapa de la Era Atómica. Así, al nivel temático, los tres tópico dominantes son: la energía atómica, la nueva era atómica y el posible conflicto nuclear. El tipo de elementos léxicos analizados a nivel local dibuja un

contorno en el que las principales metáfora conceptuales giran en torno a ideas de movimiento, libertad, logros y posesión.

De esta manera, la bomba atómica es mayoritariamente representada positivamente mediante metáforas conceptuales tales como:

- LA BOMBA ATÓMICA ES UNA FUERZA NATURAL O CÓSMICA
- LA BOMBA ATÓMICA ES UN ANIMAL DOMESTICADO
- LA BOMBA ATÓMICA ES EL FUEGO DE PROMETEO
- LA BOMBA ATÓMICA ES UN INSTRUMENTO MORAL

Igualmente, el tipo de discurso empleado para describir la nueva Era Atómica manifiesta una clara tendencia al uso de metáforas conceptuales que ensalzan la idea de movimiento como logro estadounidense:

- LA ERA ATÓMICA ES UNA NUEVA VIDA
- LA ERA ATÓMICA ES UN VIAJE
- LA ERA ATÓMICA ES COMPETICIÓN

El tema del conflicto nuclear se vislumbraba desde los orígenes de la energía nuclear. Científicos, políticos y militares eran conscientes de las dificultades que conllevaría preservar el monopolio atómico. Después de un par de años en los que el fulgor de hongo atómico había sido ensalzado a la categoría de mito, poco a poco la sombra de la amenaza, particularmente la de Rusia que había dejado de ser un aliado para convertirse en un rival, acaparó los titulares y ocupó un relevante puesto en la organización conceptual e ideológica al final de esta etapa. Las metáforas conceptuales favoritas de los medios para representar el conflicto atómico se centran en la posesión de objeto casi mágico que representa la libertad del pueblo americano y de cómo el enemigo ruso intenta robarlo:

- LA INFORMACIÓN ATÓMICA ES UN SECRETO
- RUSIA ES UN LADRÓN INTENTANDO PENETRAR EN LA CASA AMERICANA
- LA RELACIÓN ENTRE ESTADOS UNIDOS Y RUSIA ES UNA GUERRA
- EL PODER ATÓMICO ES CONTROL

En suma, este primer periodo presenta una estructura ideo-discursiva que es clave para el fundamento de la categoría tanto conceptual como ideológica de la nueva Era Atómica. El uso y desarrollo de la energía nuclear es representado de manera altamente positiva, convirtiendo las investigaciones atómicas, así como sus bombas en un objeto místico que representa la clave para mantener la libertad. En este optimista esquema, la amenaza de perder el monopolio nuclear se equipara a la de perder la propia libertad.

En cuanto a la recepción de dicho discurso por parte de la opinión pública, una vez consultadas las distintas encuestas relativas al ámbito nuclear, hay clara relación entre el tipo de discurso positivista y la aceptación pública. Por ejemplo, en 1945 el 69% de la población pensaba que el desarrollo de la bomba atómica había sido una buena idea. De la misma manera, cuando en 1947 el público fue preguntado si Estados Unidos debería producir más bombas atómicas, un aplastante 70% de los encuestados dijeron que sí. Más tarde, en 1949, empiezan a emerger los miedos a un potencial enemigo con energía nuclear; lo que provoca que casi un 48% de la audiencia considere que las bombas atómicas hacen más posible una nueva guerra.

3.2. 1949-1952: La segunda Era Nuclear

En septiembre de 1949, Rusia detonó su primera bomba atómica. La noticia, aunque esperada, cayó como un jarro de agua fría sobre los exaltados ánimos estadounidenses que tuvieron que aceptar la pérdida del monopolio e idear nuevas fórmulas para seguir promocionando la investigación atómica. Esta es la época en la que se inicia la carrera armamentística nuclear. La prensa se dedicará a presentar la

competición entre Rusia y EEUU como un espectáculo más en que está en juego, ya no la libertad del pueblo estadounidense, sino de todo el 'mundo libre'.

Al nivel de la organización global y temática de los textos, destacan tres tópicos que son consistentes a lo largo de este periodo: los logros atómicos, el conflicto nuclear y el desarrollo de la bomba de hidrógeno. El análisis léxico al nivel local presenta una orientación que implica un cambio de valores, así como de organización, de la categoría conceptual de la Era Atómica. Conceptos tales como la libertad, la competición o rivalidad, así como la necesidad de control y la amenaza son elementos claves para promover un discurso del miedo que desembocará en la producción de la más temible arma nuclear jamás inventada: la Bomba H.

En términos del desarrollo nuclear, durante esta época, al igual que en la anterior, hay una tendencia a emplear metáforas conceptuales de movimiento para expresar nociones de libertad y logros. Igualmente, hay una asociación entre la idea de posesión y libertad y una continua referencia a los secretos atómicos como objetos estadounidenses. Así, las metáforas conceptuales más destacadas en este apartado son:

- LA POSESIÓN DE ARMAMENTO ATÓMICO ES LIBERTAD
- EL DESARROLLO NUCLEAR ES MOVIMIENTO ADELANTE
- EL DESARROLLO NUCLEAR ES UNA CARRERA
- VELOCIDAD ES LIBERTAD

De la idea de competición surge inmediatamente un elemento mucho más complejo de conflicto y amenaza. De repente, Rusia es percibida como un peligroso elemento en posición de ataque. Se pasa del modelo deportivo de la carrera de bólidos a un esquema más directamente relacionado con la guerra. Los elementos léxicos estudiados presentan una tendencia a conceptualizar este conflicto de manera belicosa y

muy menos optimista que en la anterior etapa. Las metáforas conceptuales más repetidas son las siguientes:

- RUSIA DESARROLLANDO ARMAS NUCLEARES ES RUSIA ATACANDO
- RUSIA DESARROLLANDO ARMAS NUCLEARES ES RUSIA LUCHANDO CONTRA EEUU
- EL DESARROLLO NUCLEAR RUSO ES UNA AMENAZA PARA EL MUNDO LIBRE

Este conflicto, lejos de disuadir al gobierno estadounidense de que abandonara los proyectos sobre armamento atómico, estimuló la conciencia de competitividad y de disuasión que desembocaría en la creación de la primera bomba termonuclear. El proyecto, no sólo era faraónico en cuanto a recursos, sino también en cuanto a los resultados. Sin embargo, la terrorífica 'bomba H' fue representada por la prensa como un paso necesario de cara al conflicto atómico. El tipo de metáforas conceptuales empleadas para describir el desarrollo de la bomba termonuclear es bastante similar al de la bomba atómica pero con un giro hacia un estilo mucho más oscuro y aterrados. Las metáforas más destacadas son las siguientes:

- LA CREACIÓN DE LA BOMBA H ES MOVIMIENTO ADELANTE
- LA CREACIÓN DE LA BOMBA H ES UNA AVENTURA
- LA BOMBA H ES UNA FUERZA CÓSMICA
- LA BOMBA H ES UNA SÚPER BOMBA
- LA BOMBA H ES LA BOMBA DEL INFIERNO
- LA BOMBA H ES UN SECRETO AMERICANO
- LA BOMBA H ES DESTRUCCIÓN

En este segundo periodo, el estilo discursivo e ideológico se vuelven más agresivos. La competición da paso al conflicto y de la idealización del armamento atómico se pasa a la cruda descripción infernal de lo que supondría el uso de bombas de hidrógeno. Este viraje hacia páramos más oscuros en la conceptualización de la Era Atómica supone, asimismo, un cambio en la manera de interpretar y aceptar este evento por parte de la opinión pública.

En efecto, las encuestas consultadas reflejan cómo el tipo de discurso fomentó una postura ideológica que empieza a ser menos optimista en cuanto a los logros atómicos y más recelosa de las consecuencias de un conflicto nuclear. Así, en 1950 68% de los encuestados pensaba que Rusia iba a usar bombas de hidrógeno contra los Estados Unidos. En 1951, el 51% de la población afirmaba no sentirse seguro bajo la amenaza de guerra nuclear. Ese mismo año, el 51% de los encuestados aseguraban que Rusia era el problema más importante al que se enfrentaba. Esta es, sin duda, la etapa en la que se destapa el miedo a la amenaza nuclear como postura ideológica que condicionara tanto la política interior como exterior de los EEUU por muchos años.

3.3. 1953-1962: La amenaza nuclear

Ante un panorama oscurecido por la rivalidad atómica, durante este periodo atendemos al lavado de imagen de la energía nuclear que a través de una multitudinaria campaña política llamada 'Átomos para la paz' pretendía enfatizar en las milagrosas propiedades de esta energía para mejorar la economía, la salud, e incluso la tecnología. Sin embargo, las virtudes de los átomos para la paz no pudieron frenar el avance atómico Ruso que durante estos años logrará crear sus propias bombas de hidrógeno, las más poderosas jamás detonadas. Entre la dicotomía entre la esperanza y el desconsuelo, esta es quizás la etapa más cruda y pesimista en la historia de la Era Atómica. La ansiedad nuclear atrapa a los ciudadanos norteamericanos a los que sólo les queda seguir la derrotista estrategia de 'agacharse y cubrirse'.

Al igual que anteriormente, tres son los temas principales de este periodo: los átomos para la paz, los átomos para la guerra, y la defensa. El análisis léxico demuestra que el tono discursivo ha cambiado respecto a los periodos anteriores, lo que provoca que

la conceptualización entre en una etapa en la que serios cambios en cuanto a la estructura dinámica de los participantes se van a llevar a cabo. Para empezar, Estados Unidos ya no es representado como un pionero en constante movimiento de ataque para lograr la supremacía nuclear. En este nuevo escenario, se pasa del ataque a la defensa, del movimiento al estatismo y del orgullo al recelo.

Los átomos para la paz constituyeron un intento fallido de mejorar la maltrecha imagen de la energía atómica. El tipo de metáforas conceptuales empleadas, para este fin, por los medios de comunicación están en relación con la bonanza económica y la moralidad que esta implica:

- LA ENERGÍA ATÓMICA ES UN INSTRUMENTO PARA LA PAZ
- LA ENERGÍA ATÓMICA ES BENEFICIO
- LA ENERGÍA ATÓMICA ES BIENESTAR
- LA ENERGÍA ATÓMICA ES BONANZA ECONÓMICA
- LA ENERGÍA ATÓMICA ES MORALIDAD

Grandes promesas que pronto fueron eclipsadas por la inminente amenaza rusa, que dieron paso al predominio del discurso de los átomos para la guerra. Rusia es conceptualizada como un riesgo potencial para los Estados Unidos, así como todo el mundo libre. La radiación, como derivado de las continuas detonaciones nucleares, se convierte metonímicamente en parte de esa, tan temida, amenaza rusa. Rusia durante esta época es representada como un enemigo potente a la cabeza de la carrera nuclear, y dispuesto al ataque en cualquier momento. Metáforas conceptuales anteriormente utilizadas para describir la supremacía norteamericana, se invierten aquí para retratar una catastrófica y derrotista imagen de una Rusia en control del armamento nuclear. Así las metáforas más destacadas son:

- RUSIA PRODUCIENDO BOMBAS ATÓMICAS ES RUSIA EN MOVIMIENTO
- LA RADIACIÓN ES IMPUREZA
- LA RADIACIÓN ES CONTAMINACIÓN

- LA RADIACIÓN ES MUERTE
- EL USO DE ARMAMENTO ATÓMICO ES UN HOLOCAUSTO

Ante tal pesimista discurso, las estrategias políticas e ideológicas se mueven de un planteamiento de disuasión a uno de distensión. Del modelo de ataque se pasa al modelo de defensa, mucho menos dinámico y con menor movimiento. Este es el periodo en el que instaura un programa de refugios antinucleares por todo el país. Las metáforas conceptuales determinantes dentro de este apartado denotan el estatismo y el miedo a actuar que ocasiona un cambio radical en la conceptualización de los eventos atómicos. Así las metáforas más destacadas son:

- DEFENSA ES REFUGIO NUCLEAR
- DEFENSA ES PROTECCIÓN
- CONTROL ES CESE DE MOVIMIENTO
- EL FINAL DEL CONFLICTO ES ALCANZAR UN ACUERDO

A estas alturas, el discurso nuclear había generado una ideología nuclear que distaba de aquella optimista de los primeros años de la Era Atómica. Oscurecida por las terribles consecuencias del uso de bombas termonucleares, la opinión pública expresa su descontento y desesperación ante tan pesimista panorama. En 1954 uno de los cuatro miedos más mencionados era el miedo a las bombas atómicas. En 1956 el 43% de los encuestados pensaba que su ciudad sería devastada por las bombas nucleares. En 1957 el 71% de los encuestados pensaba que bombas termonucleares sería utilizadas. Ese mismo año, un 52% de la población aseguró que la lluvia radiactiva era un inminente peligro y 46% consideraba que la radiación podría dañar la salud y la genética del ser humano. Como único dato esperanzador, cabe destacar la positiva recepción de los refugios nucleares, que en 1960 eran considerados muy seguros por un 60% de los encuestados.

3.4. 1963-1979: Las conversaciones atómicas

1962 constituyó, sin ninguna duda, el momento más tenso dentro de la Guerra Fría. Tras la crisis de los misiles cubanos, llegó el momento de replantearse la política nuclear desde presupuestos menos combativos. Entre 1963 y 1979 se abre una etapa de diálogo y negociación que tiene un particular tipo de discurso nunca antes empleado dentro de la conceptualización del dominio atómico.

Durante este periodo los tres temas fundamentales al nivel global son: la búsqueda de acuerdos para alcanzar la paz, el control de la energía atómica, y el resurgimiento del conflicto. Los elementos léxicos analizados dejan claro que ha habido un cambio en el tipo de discurso, lo que denota una transformación en el acercamiento ideológico e interpretativo.

Respecto a la conceptualización del diálogo en las llamadas 'conversaciones atómicas', las metáforas conceptuales más destacadas están relacionadas con la idea de movimiento y viaje:

- LAS CONVERSACIONES ATÓMICAS SON UN VIAJE
- UNA MEJORA EN LAS CONVERSACIONES ES UN PROGRESO EN EL VIAJE
- ACUERDO ES MOVIMIENTO HACIA EL MISMO PUNTO

A la par de las conversaciones atómicas, una parte importante del discurso atómico de estos años es la idea de control del armamento nuclear. Como en ocasiones anteriores, la noción de control viene asociada con metáforas conceptuales de cese de movimiento:

- EL CONTROL DEL ARMAMENTO ATÓMICO ES CESE DE MOVIMIENTO
- EL CONTROL DEL ARMAMENTO ATÓMICO ES CONGELACIÓN
- EL CONTROL DEL ARMAMENTO ATÓMICO ES CONTENCIÓN

El clima apacible de este periodo se ve oscurecido con la amenazar del resurgimiento de una nueva carrera armamentística, esta vez con potentes misiles como protagonistas. Esto se recoge, sobre todo durante la segunda mitad de esta etapa, en un regreso al estilo discursivo de los años de la tensión atómica. Las metáforas conceptuales empleadas son similares a las de años previos:

- EL DESARROLLO DE ARMAMENTO ATÓMICO ES UNA CARRERA
- RUSIA DESARROLLANDO ARMAS NUCLEARES ES RUSIA CONSTRUYENDO UN EDIFICIO
- ESTADOS UNIDOS ES UN EDIFICIO VULNERABLE AL ATAQUE

Pese al resurgimiento de los conflictos, este periodo es discursiva e ideológicamente uno de los menos agitados dentro de la historia de la Guerra Fría. Numerosos tratados fueron firmados y se puede considerar como el primer intento de acabar con el conflicto nuclear. La opinión pública reaccionó positivamente ante tal cambio y desde el principio los encuestados se muestran favorable a las conversaciones y deseosos de alcanzar acuerdo. En 1973, por ejemplo 66% de los encuestados pensaban que las relaciones entre Rusia y EEUU estaban mejorando, similarmente en 1978 65% de los encuestados estaban de acuerdo con las series de conversaciones que Rusia y EEUU estaban llevando a cabo. La reacción pública ante los asuntos nucleares demuestra una cierta mejora, no obstante se mantiene siempre un recelo acerca del incierto futuro de una guerra nuclear.

3.5. 1980-1991: De vuelta a la amenaza nuclear

La invasión rusa de Afganistán constituyó el fin de las negociaciones entre Rusia y Estados Unidos que entran, una vez más en un periodo tenso de constantes amenazas. Con el presidente Ronald Reagan a la cabeza de la nueva carrera nuclear el universo

atómico se enriquece con una serie de elementos aterradores que causará el parálisis en una población que pensaba que ya había dejado atrás la ansiedad nuclear. Por suerte, la frenética 'Guerra de las galaxias' pronto dará paso a un clima menos beligerante y propicio para alcanzar los acuerdos definitivos que podrían fin a la Guerra Fría.

Los tres temas más importantes al nivel global son: la vulnerabilidad de los Estados Unidos, el plan de defensa/ofensa y el final del conflicto. Elementos léxicos de previas etapas se emplean aquí para organizar la categoría dentro de las dos fases que durante este periodo se experimentarán. Tanto ideológica como discursivamente hay un proceso de evolución conceptual que culmina con el fin de la Guerra Fría.

Así, durante los primeros años de este periodo, emerge la idea de vulnerabilidad basada en metáforas conceptuales espaciales y de contenedor que implican que la casa americana es vulnerable. Igualmente, se visualiza a las dos superpotencias en términos de fuerza física, así como el modelo de lucha previamente introducido. Las metáforas más destacadas son:

- ESTADOS UNIDOS ES UN EDIFICIO VULNERABLE AL ATAQUE
- EL PODER ATÓMICO ES PODER FÍSICO
- LA RELACIÓN ENTRE EEUU Y RUSIA ES UNA LUCHA FÍSICA
- EL USO DE ARMAMENTO ATÓMICO ES UN HOLOCAUSTO
- EL USO DE ARMAMENTO ATÓMICO ES SUICIDIO

Ante tal panorama, la idea de defensa como fue entendida en la década de los 50, se transforma en un tipo de defensa ofensiva basada en una avanzada tecnología. Los misiles son vistos como los nuevos vehículos de la carrera nuclear, que esta vez tendrá lugar en el espacio. El discurso de esta fase está orientado hacia una conceptualización tremendista del escenario nuclear. Las metáforas conceptuales más empleadas son:

- LA INICIATIVA DE DEFENSA ESTRATÉGICA ES UN ESCUDO EN EL ESPACIO
- LA INICIATIVA DE DEFENSA ESTRATÉGICA ES LA GUERRA DE LAS GALAXIAS

Finalmente está etapa dio paso a un clima cordial en el que los líderes iniciaron conversaciones. En términos del tipo de discurso, así como la ideología proyectada por el mismo, en este momento se vuelve al tipo de lenguaje utilizado durante los años 60 y 70 para conceptualizar las conversaciones atómicas en términos de cordialidad y camino común. Las metáforas más empleadas para este propósito son:

- LAS NEGOCIACIONES POLÍTICAS SON MOVIMIENTO EN EL VIAJE
- RUSIA Y EEUU NEGOCIANDO SON RUSIA Y EEUU CAMINANDO JUNTOS EN LA MISMA DIRECCIÓN
- LOS ACUERDOS SON DESTINOS EN UN VIAJE
- EL FIN DE LOS CONFLICTOS NUCLEARES ES CESE DE MOVIMIENTO

La opinión publica durante estos años pasa del miedo al invierno nuclear a la total tranquilidad de ver como la Guerra Fría termina. De los años de intenso conflicto dan cuenta las encuentras que arrojan datos fehacientes del miedo con el que la población vivía estas tensiones nucleares. Por ejemplo, en 1983 un 69% de los encuestados pensaban que en caso de guerra su probabilidad de sobrevivir era baja. De hecho, este pesimismo es el que empuja, de alguna manera, al diálogo que podría fin a los conflictos nucleares. En 1983, 70% de la población estaba a favor de la reducción del armamento nuclear y la no proliferación. Eso no impidió que muchos estuviera a favor del programa de 'la guerra de las galaxias' y en 1985 un 50% de los encuestados manifestaron que dicha iniciativa debía continuar. No obstante, paulatinamente el clima fue cambiando lo que propició las negociaciones que pusieron fin a la Guerra Fría.

4. CONCLUSIÓN

Los objetivos de la presente tesis eran analizar el discurso nuclear propuesto por la prensa para ver como este había moldeado la categoría conceptual del dominio atómico y podría haber influido en la recepción que del mismo tuvo la opinión pública. Después del análisis de más de un millar de unidades léxicas, que a su vez, quedaron organizadas en distintas categorías conceptuales, es indudable que existe una conexión entre el tipo de discurso y el tipo de conceptualización que del mismo se general dentro de la sociedad norteamericana.

Las metáforas conceptuales parecen ser un vehículo apropiado para el estudio del fenómeno de la conceptualización del dominio atómico. En esencia, la Era Atómica es un constructo lingüístico y dependiendo de la selección, la conceptualización de mismo vira de unos parámetros a otros. Lo vemos en las distintas etapas en las que diversos tipos de metáforas conceptuales emergen para representar la energía nuclear o sus armas de una manera u otra. Es más, a lo largo de la Guerra Fría la estructura metafórica del dominio atómico fue ganando en complejidad añadiendo nuevas capas al esquema básico inicial.

Respecto a la recepción e impacto del discurso maquiavélico empleado por la prensa, hay una correlación entre el tipo de ideología desplegada por los medio y la respuesta de la opinión pública. A través del análisis de esta recepción por medio de diferentes teorías pertenecientes al ámbito de la psicología evolutiva, esta tesis explica como es posible que un tipo de discurso determinado pueda tener tan alto impacto en la opinión pública.

La historia de la Guerra Fría y sus armas nucleares narrada desde la postura norteamericana podría ser entendida como una narración historiográfica centrada de los datos y sin ánimos de manipulación; sin embargo, un análisis cuidadoso arroja datos clarificadores a la hora de discernir si éste fue un tipo de discurso manipulativo que generó una muy particular ideología atómica. La presente tesis arroja luz a una parcela de la historia de la energía nuclear a la le ha sido negada su importancia: el discurso nuclear y su conceptualización.

La trascendencia de este trabajo reside en el hecho de que no sólo un tema tan conflictivo como la Guerra Fría, sino discurso mucho más inadvertidos pueden estar sometidos a un tipo de manipulación maquiavélica que provoca una reacción casi instintiva en el receptor. En general, mucha más atención debería prestarse a esos tipos de discursos considerados inofensivos y que, en realidad pueden estar sometidos a tremendas cargas ideológicas y manipulativas.

SUMMARY IN ENGLISH

1. THEORETICAL BACKGROUND, HYPOTHESES, AND OBJECTIVES

This thesis encompasses a multidisciplinary approach to the phenomenon of the conceptualization of new events. The chosen topic is the type of nuclear discourse fostered and promoted by the U.S. media during the period of the Cold War, covering the years that go from 1945 to 1991. The particular interest of this dissertation is to analyze the type of discourse employed by various newspapers and how it impacted American public opinion with regards to the phenomenon of nuclear energy and its uses during that period.

The theoretical framework of this dissertation includes Critical Discourse Analysis, Cognitive Linguistics, and Evolutionary Psychology. The main purpose of the work is to see how linguistic decisions at the local level involve the activation of a series of ideological mechanisms at the global level that may influence the reception and performance of discourse by public opinion.

In the framework of critical discourse analysis, this thesis is located within the theories proposed by Van Dijk (1997, 1998, 2000): more particularly, Van Dijk's idea of ideology as a linguistic construct that shapes our values to the point of creating, via discourse, a set of factual beliefs for the group. For Van Dijk (1997: 67) there is interplay between discourse, cognition, and society that must be analyzed in order to decipher the powerful impact of discourse on the ideological organization of a social group.

Within cognitive linguistics, my main interest revolves around the idea of conceptualizing events and their relation to discourse and ideology. Cognitive Linguistics

regards conceptual metaphors as an extremely crucial element in the construction of the mental map of an event. In this line, the thesis follows the parameters proposed by Lakoff and Johnson (1980, 2002) as well as their theories of conceptual metaphors in order to explain how our knowledge and true understanding of the external world is systematized. In short, conceptual metaphors used in discourse to frame knowledge within a given context are susceptible to ideological manipulation.

A crucial aspect within this triangle of discourse, cognition, and society involves looking beyond discourse production and ideological organization in order to analyze its reception and interpretation by the public. In this thesis, I took into consideration public opinion's reception of texts. To this end, this work uses numerous theories proposed by linguists (Hart 2010, Chilton 2004) and psychologists (Schaller 2006, Keltner 2003, 2006, Haidt 2003, 2006) about evolutionary psychology and how the reception of different discourses is based on certain evolutionary elements.

The purpose of my thesis was to select a new event and study its evolution and representation within institutional discourse. Another purpose was to see how this event and its evolution were interpreted by public opinion. To do so, I selected a topic that for many years constituted, and still constitutes, a fundamental element in the ideological configuration of much of the planet: nuclear energy. The primary focus of this study was U.S. nuclear discourse within the socio-political context of the Cold War in which a marked nuclear ideology emerged as a constant battle between East and West.

After selecting the event, I had to decide what kind of discourse I would employ in order to carry out my project. Supported by the theories proposed by Van Dijk (1988) and Fairclough (1995), I decided to study media discourse. In particular, given the period

of time that I was going to study, I focused on the study of high-circulation newspapers in the United States.

The hypotheses covered by this study include the following:

(1) Media discourse built the foundation of what would become the U.S. 'nuclear ideology' during the Cold War. This presupposes that the media adapted its discourse to the political interests of the moment by using different types of discursive strategies.

(2) The different types of discursive strategies denote a particular ideological orientation and precise conceptualization. When selecting types of strategies, conceptual metaphors and their lexical representation at the local level are prominent enough to reach conclusions about the ideological and conceptual structure of nuclear ideology.

(3) The interpretation of a text is based on evolutionary principles that induce the recipient to behave in a particular way. The employment of strategic and manipulative discourse has a determining effect on the reception of nuclear ideology by public opinion. The type of metaphorical selection employed by the media has an effect, not only on the level of production, but also at the interpretive phase in the formation of meaning.

With these three hypotheses in mind, the aim of this thesis was to examine the extent to which nuclear ideology was shaped by the discourse of the media; determine how certain conceptual metaphors were employed in service to ideological manipulation; and discern whether certain ideological organization of a text could encourage a particular type of behavior in the receivers.

2. METHODOLOGY AND THESIS ORGANIZATION

This thesis is organized around the analysis of newspaper articles from four U.S. newspapers: *The New York Times, Los Angeles Times, Chicago Tribune, and Washington Post*. In order to compile strong corpus data, an exhaustive search of articles was conducted. The primary source of articles used for this purpose was *Proquest*, an electronic database that archives news articles. To configure the corpus, first, arduous historical documentation allowed me to outline the five main stages of the Cold War, which I titled:

- 1945-1949: The Birth of the Atomic Age
- 1949-1952: The Second Nuclear Era
- 1953-1963: The Nuclear Threat
- 1963-1979: The Atomic Conversations
- 1980-1991: Back to the Nuclear Threat

For each period, I selected 50 texts, adding up to a total of 250 texts in the corpus. Once the corpus was organized, I carried out the selection of linguistic strategies that would be analyzed in order to test the hypotheses of this dissertation. Five lexical items, in direct or indirect connection with a conceptual metaphor, were selected from each section. Once I completed the selection of lexical material at the local level, I proceeded to carry out a detailed analysis of the data and its organization at the global and thematic level.

In order to verify how the different types of ideological manipulations expressed by the press influenced the reception of the Nuclear Era, a comprehensive compilation of public opinion polls on nuclear issues was organized around the stages of the Cold War. The main source for these surveys was Gallup Polls, but I also consulted The Quarterly of Public Opinion. These data serve to collate and verify hypothesis (3) of the thesis.

3. DATA ANALYSIS

The data and analyses provide a clear understanding of the type of manipulative discourse employed by media and its consequences for the positioning of public opinion within the atomic ideology. Different stages offer distinct perspectives; the discursive strategies deployed by journalists differ considerably depending on the ideological motivations of each period.

3.1. 1945-1949: The Birth of the Atomic Age

The bombings of Hiroshima and Nagasaki were considered the inauguration of the Atomic Age. This was a new phase that American institutions peddled with excessive optimism, leaving aside the darker implications that the use of atomic bomb had had on the civilian population. The press echoed confidence in the promises of atomic energy by means of a type of discourse in which a positive approach prevailed. However, there was from the beginning a climate of tension and competition to maintain the atomic monopoly.

The data from this period are consistent with the ideological orientation of this first stage of the Atomic Age. At the thematic level, the three dominant topics are: atomic energy, the new atomic age, and the possible nuclear conflict. The lexical elements analyzed draw an outline in which the main conceptual metaphors revolve around ideas of movement, freedom, achievement, and possession. Thus, the atomic bomb is positively represented by means of conceptual metaphors such as:

- ATOMIC BOMB IS A NATURAL OR COSMIC FORCE
- ATOMIC BOMB IS A TAMED ANIMAL
- ATOMIC BOMB IS PROMETHEAN FIRE
- ATOMIC BOMB IS A MORAL INSTRUMENT

Similarly, the type of discourse used to describe the new Atomic Age shows a clear trend towards the use of conceptual metaphors that extol the idea of movement as an American achievement:

- ATOMIC ERA IS A NEW LIFE
- ATOMIC ERA IS A JOURNEY
- ATOMIC ERA IS COMPETITION

The issue of nuclear war had loomed large since the origins of nuclear energy. Scientists, politicians and military were aware of the difficulties entailed in preserving the atomic monopoly. After a couple of years during which the specter of the mushroom cloud had been exalted to mythical status, gradually the shadow of threat began to occupy an important place in the conceptual and ideological organization at the end of this stage. The most popular conceptual metaphors representing the atomic conflict focus on the possession of an almost magical object that is capable of granting freedom to the American people and that is coveted by their enemies:

- ATOMIC INFORMATION IS A SECRET
- RUSSIA IS A THIEF TRYING TO GET INTO THE AMERICAN HOME
- RELATIONSHIP BETWEEN THE UNITED STATES AND RUSSIA IS WAR
- ATOMIC POWER IS CONTROL

In sum, this first period has an ideological and discursive structure that is key to the foundation of both the conceptual and ideological category of the new Atomic Age. The use and development of nuclear energy is quite positively represented, characterizing atomic research and bombs as the key to maintaining freedom. In this optimistic scheme, the threat of losing the nuclear monopoly equates to losing freedom.

As for the reception of this discourse by public opinion, after consultation of various surveys relating to nuclear affairs, one can find a clear relationship between the type of positivist discourse and its public acceptance. For example, in 1945, 69% of the

population considered the development of the atomic bomb a good idea. Similarly, when in 1947 the public was asked whether the U.S. should produce more atomic bombs, an overwhelming 70% of respondents said yes. Later, in 1949, fears of a potential enemy with nuclear energy began to emerge, provoking a shift of opinion: now almost 48% of the audience believed that atomic bombs made possible a new war.

3.2. 1949-1952: The Second Nuclear Era

In September of 1949, Russia detonated its first atomic bomb. The news, although expected, fell like a jar of cold water over the exalted American mood that had to accept the loss of monopoly and formulate new ways to further promote atomic research. This was the time when the nuclear arms race begins. The press was devoted to presenting the competition between Russia and the U.S. as a spectacle in which not only freedom of the American people, but of all the 'free world' was at stake.

At the level of global organization and themes, there are three topics that are consistent throughout this period: atomic achievements, nuclear conflict, and the development of the hydrogen bomb. Lexical items at the local level have an orientation that involves a change in values and organization of the conceptual category of the Atomic Age. Concepts such as freedom, competition or rivalry, as well as the need for control are key elements to promoting a discourse of fear that leads to the production of the most terrifying nuclear weapon ever invented: the H-bomb.

In terms of nuclear development, during this time, as in the previous stages, there is a tendency to use conceptual metaphors of movement to express notions of freedom and achievement. Similarly, there is an association between the idea of freedom and

possession and continued reference to the U.S. atomic secrets as objects. Thus, the most important conceptual metaphors in this section are:

- POSSESSION OF ATOMIC WEAPONS IS FREEDOM
- NUCLEAR DEVELOPMENT IS MOVING FORWARD
- NUCLEAR DEVELOPMENT IS A CAREER
- SPEED IS FREEDOM

From the idea of competition a more complex element of conflict and threat arises. Suddenly, Russia is perceived as a dangerous element in position of attack. The studied lexical items present a tendency to conceptualize this conflict in a very belligerent guise. The most repeated conceptual metaphors are:

- RUSSIA DEVELOPING NUCLEAR WEAPONS IS RUSSIA ATTACKING
- RUSSIA DEVELOPING NUCLEAR WEAPONS IS RUSSIA FIGHTING USA
- RUSSIAN NUCLEAR DEVELOPMENT IS A THREAT TO THE FREE WORLD

This conflict stimulated competitiveness, awareness, and deterrence, leading to the creation of the first thermonuclear bomb. The terrifying 'H-bomb' was represented in the press as a necessary step in atomic escalation. The type of conceptual metaphors used to describe the development of the hydrogen bomb are quite similar to those used to describe the atomic bomb but with a shift to a much darker and more terrifying style. The most prominent metaphors are:

- THE CREATION OF THE H-BOMB IS MOVING FORWARD
- CREATING THE H-BOMB IS AN ADVENTURE
- H-BOMB IS A COSMIC FORCE
- H-BOMB IS A SUPER BOMB
- H-BOMB IS HELL
- H-BOMB IS AN AMERICAN SECRET
- H-BOMB IS DESTRUCTION

In this second period, the discursive and ideological style becomes more aggressive. The competition leads to conflict and the idealization of nuclear weapons turns into a raw description of what the use of hydrogen bombs would entail. This shift

toward a darker conceptualization of the Atomic Age implies a change in the way public opinion interprets and accepts this event.

Indeed, polls reflect how this type of discourse promoted an ideological position increasingly more anxious about the consequences of a nuclear conflict. Thus, in 1950, 68% of respondents thought that Russia would use hydrogen bombs against the United States. In 1951, 51% of the population claimed not to feel safe under the threat of nuclear war. That same year, 51% of respondents claimed that Russia was the most important problem the United States faced.

3.3. 1953-1962: The Nuclear Threat

'Atoms for Peace' was intended to emphasize the miraculous properties of nuclear energy to improve the economy, health, and even technology. It was also determined to improve the mistreated image of nuclear energy in the murky landscape of atomic conflict. However, the virtues of the atoms for peace could not stop Russian atomic progress from creating its own hydrogen bomb. In dichotomy between hope and despair, this is perhaps the most pessimistic period in the history of the Atomic Age. Nuclear anxiety entraps Americans citizens who have to embrace the defeatist strategy of 'duck and cover'.

As in previous stages, there are three main themes of this period: atoms for peace, atoms for war, and defense. The lexical analysis shows that the discursive tone has changed from prior periods, which causes the conceptualization to enter a stage in which changes in the dynamic structure of the participants are performed. To begin with, the U.S. is no longer represented as a pioneer in constant movement towards achieving

supremacy. In this new scenario, the political position veers from offense to defense, movement to stasis, and pride to suspicion.

Atoms for Peace was an attempt to improve the battered image of atomic energy. The type of conceptual metaphors employed for this purpose by the media are related to the economic prosperity and morality that this implies:

- ATOMIC ENERGY IS A TOOL FOR PEACE
- ATOMIC ENERGY IS PROFIT
- ATOMIC ENERGY IS BEING
- ATOMIC ENERGY IS ECONOMIC BONANZA
- ATOMIC ENERGY IS MORALITY

The big promises of the Atoms for Peace were soon overshadowed by the imminent Russian threat, giving way to the dominance of the discourse of atoms for war. Russia is conceptualized as a potential risk to the United States and the entire free world. Radiation, derived from continuous nuclear detonations, becomes part of that Russian threat by means of metonymy. Russia during this time is represented at the head of the nuclear race, ready to attack at any time. The conceptual metaphors used to describe American supremacy are inverted here to portray a disastrous and defeatist image of a Russia in control of the nuclear race:

- RUSSIA PRODUCING ATOMIC BOMBS IS RUSSIA IN MOTION
- RADIATION IS IMPURITY
- RADIATION IS CONTAMINATION
- RADIATION IS DEATH
- THE USE OF ATOMIC WEAPONS IS A HOLOCAUST

Given this pessimistic speech, political and ideological strategies move from deterrence to détente. The attack model turns into a defense model, much less dynamic and with less movement. A program of fallout shelters is established across the country. The determinants conceptual metaphors in this section convey paralysis and fear to act:

- DEFENSE IS NUCLEAR SHELTER

- DEFENSE IS PROTECTION
- CONTROL IS CESSATION OF MOVEMENT
- THE END OF THE CONFLICT IS REACHING AN AGREEMENT

Terrified by the consequences of the use of thermonuclear bombs, the public expressed its discontent and despair. In 1954, one of the four most mentioned fears was the fear of atomic bombs. In 1956, 43% of respondents thought that nuclear bombs would devastate their city. In 1957, 71% of respondents thought that thermonuclear bombs would be used. That same year, 52% of the population said the fallout posed an imminent danger and 46% felt that the radiation might harm health and human genetics. Only the reception of nuclear shelters appeared to be positive, and in 1960 nuclear shelters were considered very safe by 60% of respondents.

3.4. 1963-1979: The Atomic Talks

1962 constituted the tensest moment in the Cold War. After the Cuban missile crisis, it was time to rethink nuclear policy from a less combative position. Between 1963 and 1979 a phase of dialogue and negotiation was opened. The atomic talks generated a type of discourse that had never before been used in the conceptualization of the atomic domain.

During this period the three key issues at the global level are: the search for peace agreements, control of atomic energy, and the resurgence of conflict. The analyzed lexical items illustrate that there has been a change in the type of discourse, reflecting a change in the ideological and interpretive approach.

Regarding the conceptualization of the nuclear talks, the most important conceptual metaphors are related to the idea of movement and travel:

- ATOMIC CONVERSATIONS ARE A JOURNEY

- IMPROVEMENT IN TALKS IN PROGRESS IS A JOURNEY
- AGREEMENT IS MOVING TOWARD THE SAME POINT

Along with atomic conversations, an important part of the atomic speech these years is the idea of control of nuclear weapons. As before, the notion of control is associated with cessation of movement:

- ATOMIC WEAPONS CONTROL IS CESSATION OF MOVEMENT
- ATOMIC WEAPONS CONTROL IS FREEZING
- ATOMIC WEAPONS CONTROL IS CONTAINMENT

The cordial climate of this period is obscured by the threat of the emergence of a new arms race, this time with powerful missiles as protagonists. Especially during the second half of this stage, there is a return to the discursive style of the atomic tensions. The conceptual metaphors used are similar to those of previous years:

- THE DEVELOPMENT OF ATOMIC WEAPONS IS A RACE
- RUSSIA DEVELOPING NUCLEAR WEAPONS IS RUSSIA BUILDING UP
- UNITED STATES IS A BUILDING VULNERABLE TO ATTACK

Despite the resurgence of conflict, this period is the least agitated in the history of the Cold War. Many treaties were signed and it can be considered as the first attempt to end the nuclear conflict. The public responded positively to this change. From the beginning the respondents were in favor of talks and eager to reach agreement. In 1973, for example, 66% of respondents thought that relations between Russia and the U.S. were improving. Similarly, in 1978, 65% of respondents agreed with the series of talks. Public reaction to nuclear issues shows some improvement, however it always maintains a suspicion about the uncertain future of a nuclear war.

3.5. 1980-1991: Back to the nuclear threat

The Russian invasion of Afghanistan was the end of negotiations between Russia and the United States. The two superpowers fell once again into a tense period of constant threats. With President Ronald Reagan at the head of the new nuclear arms race, the atomic universe was enriched with the glossary of science fiction. However, SDI caused paralysis in a population that thought they had left nuclear anxiety behind. Luckily, the frantic 'Star Wars' period would soon give way to a less belligerent moment, propitiating the emergence of nuclear agreements.

The three most important issues at the global level are: the vulnerability of the U.S., defense/offense, and end the conflict. Both ideologically and discursively there is a process of conceptual evolution culminating in the end of the Cold War.

Thus, during the early years of this period, what emerges from spatial and container metaphors is the vulnerability of the American home. This type of discourse represents the two superpowers in terms of physical strength following the fighting model previously introduced. The most prominent metaphors are:

- UNITED STATES IS A BUILDING VULNERABLE TO ATTACK
- ATOMIC POWER IS PHYSICAL POWER
- THE RELATIONSHIP BETWEEN U.S. AND RUSSIA IS A PHYSICAL FIGHT
- THE USE OF ATOMIC WEAPONS IS A HOLOCAUST
- THE USE OF ATOMIC WEAPONS IS SUICIDE

Under such conditions, the idea of defense as it was understood in the early '50s, becomes a kind of offensive defense based on advanced technology. Missiles are seen as new vehicles of the nuclear arms race. The most widely used conceptual metaphors are:

- STRATEGIC DEFENSE INITIATIVE IS A SHIELD IN SPACE
- STRATEGIC DEFENSE INITIATIVE IS STAR WARS

This conflict stage gave way to a warmer climate in which leaders began to talk. In terms of the type of discourse, the type of language used during the ’60s and ’70s is once more employed to conceptualize the atomic talks in terms of cordiality and common path:

- NEGOTIATION IS MOVING IN THE JOURNEY
- RUSSIA AND THE USA NEGOTIATING ARE RUSSIA AND THE USA WALKING TOGETHER IN THE SAME DIRECTION
- AGREEMENT IS A DESTINATION IN A JOURNEY
- THE END OF THE NUCLEAR CONFLICT IS CESSATION OF MOVEMENT

Public opinion over the years passed from the fears of nuclear winter to relief at seeing the end of the Cold War. For example, in 1983, 69% of respondents thought that in case of war chances of survival were low. In 1983, 70% of the population was in favor of nuclear arms reductions and nonproliferation. That did not stop those in favor of the 'Star Wars' program and in 1985, 50% of respondents stated that the SDI should continue. However, the changing weather gradually led to the negotiations that ended the Cold War.

4. CONCLUSION

The objectives of this thesis were to analyze the type of nuclear discourse proposed by the press in order to see how it shaped the conceptual category of the atomic domain, influencing its reception by public opinion. After the analysis of more than a thousand lexical units, organized into different conceptual categories, a connection between the type of speech and type of conceptualization originated within American society appeared.

Conceptual metaphors seemed to be an appropriate vehicle for the study of the conceptualization of atomic affairs. In essence, the Atomic Age is a linguistic construct and depending on the selection, different types of conceptualizations would emerge. The

types of conceptualizations vary from one period to the next. Indeed, throughout the Cold War the metaphorical structure of the atomic domain was gaining in complexity by adding new layers to the initial basic scheme.

Regarding the reception and impact of Machiavellian discourse used by the press, there is a correlation between the type of ideology displayed by media and the response of the public. Through the employment of different theories pertaining to the field of evolutionary psychology, this thesis explains how it is possible that a particular type of speech could have such great impact on public opinion.

The history of the Cold War and its nuclear weapons narrated from the U.S. position could be understood as an accurate and non-manipulative historiographical narrative; however, a careful analysis shows evidence of a kind of manipulative discourse that generated a particular atomic ideology. This thesis sheds light on a part of the history of nuclear power that has been denied its importance: nuclear discourse and the conceptualization of nuclear affairs.

The significance of this work lies in the fact that not only such a contentious issue as the Cold War, but much more inconspicuous discourse may be subject to a kind of Machiavellian manipulation that causes an instinctive reaction in the recipient. In general, much more attention should be given to those types of discourse considered harmless that can in fact carry volumes of tremendous ideological and manipulative purposes.